

Pasūtītājs:	SIA „VALKAS NOVADA DOME”
Juridiskā adrese:	Semināra iela 9, Valka, Valkas novads
Vien. Reģ.Nr.:	90009114839
Pasūtījuma Nr.:	VND/4-22/17/327-BK
Objekts:	“RAŽOŠANAS TERITORIJA "ĶIEĢEĻCEPLIS" UN "ĶIEĢEĻCEPLIS 2"
Būves veids:	Jaunbūve
Adrese:	VALKA, VALKAS NOVADS

“RAŽOŠANAS TERITORIJA "ĶIEĢEĻCEPLIS" UN "ĶIEĢEĻCEPLIS 2” VALKĀ, VALKAS NOVADĀ

BŪVPROJEKTS

INŽENIERRISINĀJUMU DAĻA BŪVKONSTRUKCIJU DAĻA (BK) APRĒĶINU ATSKAITE

Būvprojekta daļas vadītāja

Dmitrijs Orlovs

SERT NR. 3-01323

Būvprojekta vadītājs

Ruslans Mišūrovs

SERT. NR. 20-5809

RĪGĀ 2017

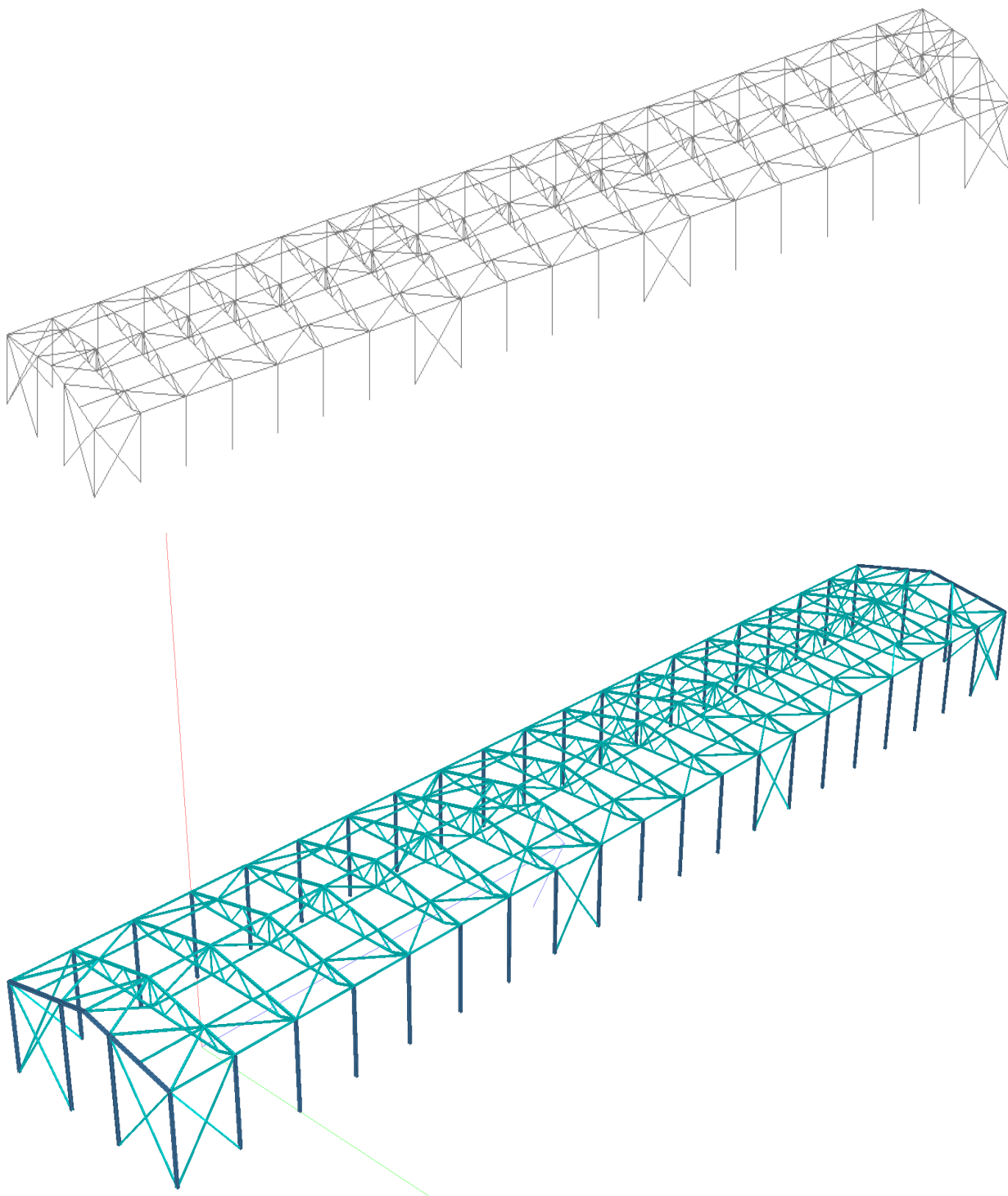
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PASKAIDROJUMA RAKSTS

“RAŽOŠANAS TERITORIJA "ĶIEĢEĻCEPLIS" UN "ĶIEĢEĻCEPLIS 2” Valkā, Valkas novadā būvkonstrukciju tehniskais projekts (TP) izstrādāts, pamatojoties uz pasūtītāja uzdevuma un vadoties pēc Latvijas Republikā spēkā esošajiem normatīvajiem dokumentiem.

Ēkas konstrukciju aprēķina modelis



Projektējama ēka risināta kā ēka ar tērauda konstrukciju karkasu. Karkasa noturība tiek nodrošināta pateicoties kolonnu iespīlējumam pamatos un saišu sistēmai, kura tiek izveidota ēkas fasādes virzienā un perpendikulārajā virzienā. Saišu stingais disks ir savienots ar ēkas pamatiem pateicoties vertikāliem saitēm ēkas fasādes un perpendikulārajā virzienā. Ēkas telpisko noturību nodrošina vertikālas un horizontālas tērauda saites, profillokšņu un jumta siju/kopņu stingais savienojums, kas veido nesošās struktūras daļu. Slodze no jumta tiek nodota uz tērauda kolonnām. Slodze no kolonnām uz grunts pamatni tiek nodota caur stabveida pamatiem. Nesošajām tērauda kopnēm pieņemts šarnīrveida balstījums. Kolonnu efektīva garuma koeficients ir pieņemts 0.7.

Par relatīvo augstuma atzīmi ± 0.000 pieņemts ēkas 1.stāva tīrās grīdas līmenis, kas atbilst absolūtajai atzīmei +70.40 (LAS-2000,5).

Būvprojektā pielietoto normatīvo dokumentu saraksts

Būvkonstrukciju analīzei ir izmantotas sekojošas Latvijas republikas 2017. gadā oktobrī spēkā esošas normas:

- LBN 202-15 "Būvprojekta saturs un noformēšana"
- LBN 201-15 "Būvju ugunsdrošība"
- LBN 203-15 "Betona būvkonstrukciju projektēšana"
- LBN 204-14 "Tērauda būvkonstrukciju projektēšanā"
- LBN 207-15 "Ģeotehniskā projektēšana"
- LVS EN 1990:2003 "Eirokekss - Konstrukciju projektēšanas pamatprincipi"
- LVS EN 1991-1-1:2003 "1.Eirokekss - Iedarbes uz konstrukcijām - 1-1.daļa: Vispārīgās iedarbes - Būvums, pašsvars, ēku lietderīgās slodze"
- LVS EN 1991-1-3:2003 "1. Eirokekss - Iedarbes uz konstrukcijām - 1-3.daļa: Vispārīgās iedarbes - Sniega radītās slodzes"
- LVS EN 1991-1-4:2005 "1. Eirokekss - Iedarbes uz konstrukcijām - 1-4.daļa: Vispārīgās iedarbes - Vēja iedarbes"
- LVS EN 1993-1-1:2005 "3. Eirokekss - Tērauda konstrukciju projektēšana - 1-1.daļa: Vispārīgie noteikumi un noteikumi ēkām"
- LVS EN 1993-1-8:2005 "3. Eirokekss - Tērauda konstrukciju projektēšana - 1-8.daļa: Savienojumu projektēšana"

Būvprojekta slodzes

Ēkas būvkonstrukcijas ir slogotas ar atbilstoši tabulas norādītam slodzēm. Slodžu kombinācijas pēc LVS EN 1990. Nelabvēlīgas slodžu kombinācijas skatīt pielikumā A.

Pastāvīgas slodzes		
Nosaukums	Vērtība (kN/m ²)	Piezīmes
Jumts pīrāga svars	0.20	
Piekārtas komunikācijas	0.60	AVK, EL un citas komunikācijas piekārtas pie jumta klāja

Īslaicīgas slodzes		
Nosaukums	Vērtība (kN/m ²)	Piezīmes
Rekomendējama ekspluatācijas slodze uz jumtu	0.40	rekomendējama vērtība atbilstoši jumts tipam "H" pēc LVS EN 1991-1-1
Sniega slodze	1.75	slodze pēc LVS EN 1991-1-3:NA celtniecība vieta: Valka. Jumts slīpums 10,0°
Vēja slodze	21 m/s	slodze pēc LVS EN 1991-1-4:NA celtniecība vieta: Valka. Ēkas augstums 8,80 m, jumta slīpums 10,0°, ēka ar parapetu, teritorijas kategorija II

SNIEGA SLODZES NOTEIKŠANA

Sniega slodzes uz jumtiem projektā ievērtējamām ilgstošām/īslaicīgām situācijām nosaka pēc formulas

$$s = \mu_w \cdot C_e \cdot C_t \cdot s_k$$

kur:

μ_i – sniega slodzes formas koeficients (sk. aprēķinu zemāk);

s_k – sniega slodzes raksturīgā vērtība uz zemes virsmas, vienāds ar 1.75 kN/m²;

C_e – iedarbības koeficients, tiek pieņemts 1.0, normāla topogrāfija.

C_t – termiskais koeficients, vienāds ar 1.0

VĒJA SLODZES NOTEIKŠANA

Vēja fundamentālais pamatātrums saskaņā ar LVS EN 1991-1-4:NA ir vienāds 21 m/s.

Vēja slodzes noteikšana sienām (Virziens X)

APVIDUS PARAMETRI:

FUNDAMENTĀLAIS VĒJA PAMATĀTRUMS: $v_{b,0} =$

21 m/s

APVIDUS KATEGORIJA:

11

Teritorijas ar vāju veģetāciju, piemēram, zāli un un atsevišķi stāvošiem šķēršļiem (kalniem, ēkām), kas atrodas viens no otra ar vismaz 20 šķēršļu augstumiem vienādu attālumu.

ĒKAS PARAMETRI:

AUGSTUMS: $h =$ **8.8** m

PLATUMS: $b = 20$ m

GARUMS: $d = 120$ m

SLODZES LAUKUMS: > par 10 m^2

APRĒKINS:

GAISA BLĪVUMS: $\rho =$ 1.25 kg/m³

VĒJA SPIEDIENA PAMATVĒRTĪBA: $q_b = 0.275625 \text{ kN/m}^2$

APVIDUS FAKTORS: $k_r = 0.190$

APVIDUS NELĪDZENUMA FAKTORS: $c_f(z) = 0.98$

APVIDUS OROGRĀFIJAS FAKTORS: $c_0(z) = 1$

VĒJA ĀTRUMS AUGSTUMĀ Z: $V_m(z) = 20.63$

ES INTENSITĂȚE AUGSTUMĂ Z: $I_{\text{v}}(z) = 0.19$

VĒĻA SPIEDZIENS AUGSTUMĀ Z: $q_z(z) = 0.63 \text{ kN/m}^2$

PVIDUS EKSPLOZĪCIJAS FAKTORS: $c_{-}(z) \equiv$ 2.27

ĀRĒJĀ SPIEDIENA KOEFICIENTI: $C_{\text{se}} =$

$e = 17.6$ m

$e/5=$	3.52	m
--------	------	---

$1/5 e=$	14.08	m
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$d-e=$ 2.4 m

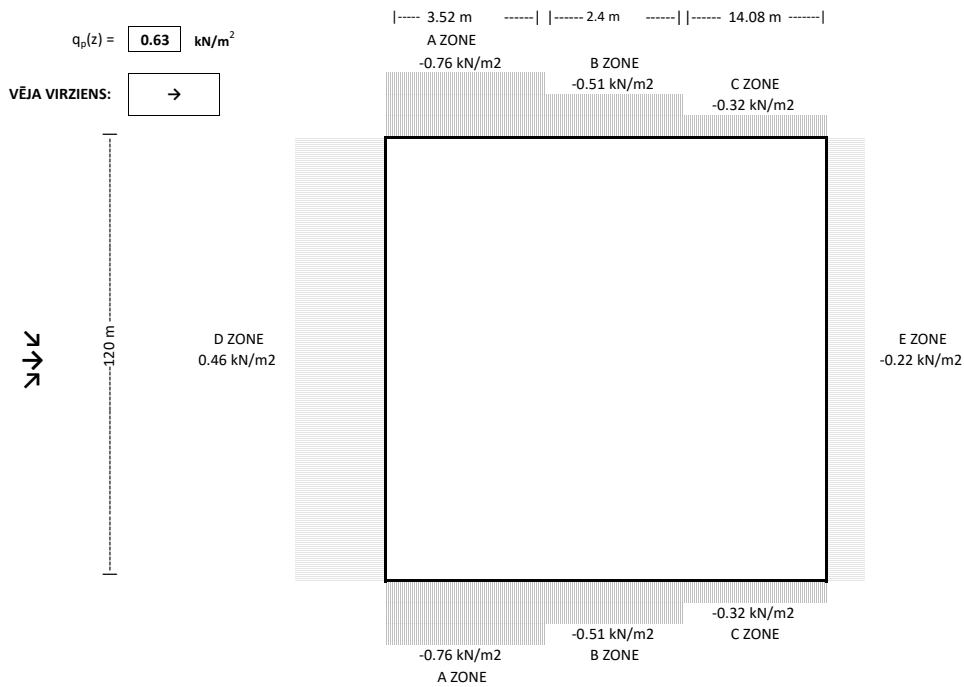
ZONA = -0.75 kN/m²

B ZONA = -0.50 kN/m²

C ZONA = -0.31 kN/m²
D ZONA = 0.45 kN/m²

D ZONA =	0.45	kN/m
E ZONA =	-0.33	kN/m ²

E ZONA = -0.22 KN/III



Vēja slodzes noteikšana sienam (Virziens Z)

APVIDUS PARAMETRI:

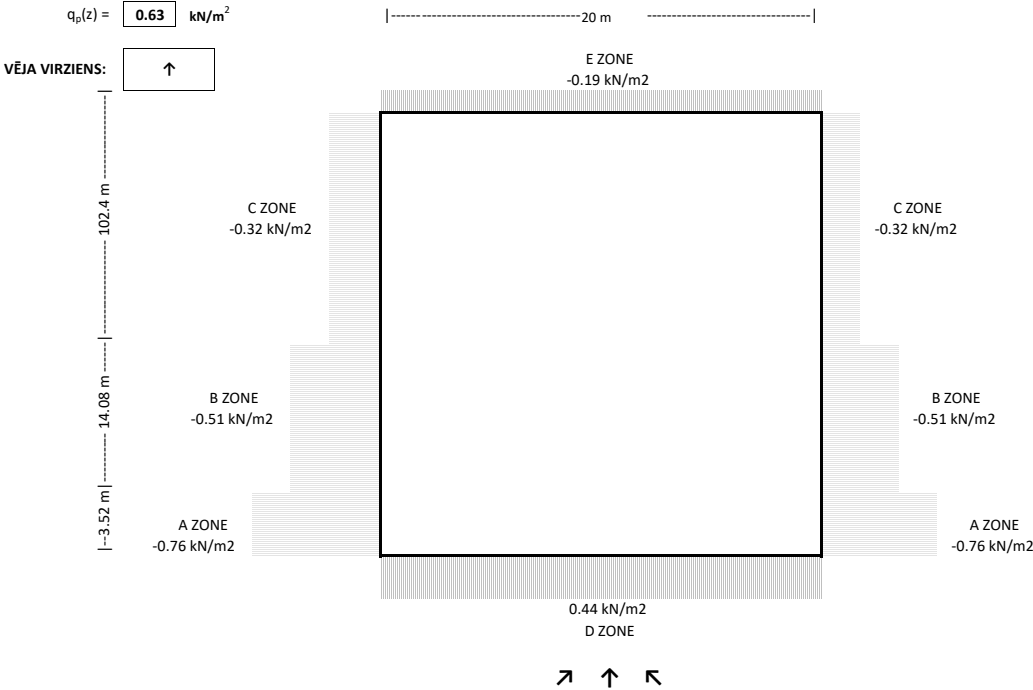
FUNDAMENTĀLAIS VĒJA PAMATĀTRUMS:	$v_{b,0}$ =	21	m/s
APVIDUS KATEGORIJA:	II	Teritorijas ar vāju veģetāciju, piemēram, zāli un atsevišķi stāvošiem šķēršļiem (kalniem, ēkām), kas atrodas viens no otra ar vismaz 20 šķēršļu augstumiem vienādu attālumu.	

ĒKAS PARAMETRI:

AUGSTUMS:	h =	8.8	m
PLATUMS:	b =	20	m
GARUMS:	d =	120	m
SLODZES LAUKUMS:	>	par	10 m ²

APRĒKINS:

GAISA BLĪVUMS:	ρ =	1.25	kg/m ³
VĒJA SPIEDIENA PAMATVĒRTĪBA:	q_b =	0.275625	kN/m ²
APVIDUS FAKTORS:	k_r =	0.190	
APVIDUS NELĪDZENUMA FAKTORS:	$c_s(z)$ =	0.98	
APVIDUS OROGRĀFIJAS FAKTORS:	$c_o(z)$ =	1	
VĒJA ĀTRUMS AUGSTUMĀ Z:	$V_m(z)$ =	20.63	m/s
TURBULENCES INTENSITĀTE AUGSTUMĀ Z:	$I_z(z)$ =	0.19	
VĒJA SPIEDIENS AUGSTUMĀ Z:	$q_p(z)$ =	0.63	kN/m ²
APVIDUS EKSPOZĪCIJAS FAKTORS:	$c_e(z)$ =	2.27	
ĀRĒJĀ SPIEDIENA KOEFICIENTI:	c_{pe} =		
	e =	17.6	m
	$e/5$ =	3.52	m
	$4/5 e$ =	14.08	m
	$d-e$ =	102.4	m
	A ZONA =	-0.75	kN/m ²
	B ZONA =	-0.50	kN/m ²
	C ZONA =	-0.31	kN/m ²
	D ZONA =	0.44	kN/m ²
	E ZONA =	-0.19	kN/m ²



Vēja slodzes noteikšana jumtam (Virziens X “-“ vērtības)

APVIDUS PARAMETRI:

FUNDAMENTĀLAIS VĒJA PAMATĀTRUMS:	$v_{b,0} =$	21	m/s	
APVIDUS KATEGORIJA:		II		Teritorijas ar vāju veģetāciju, piemēram, zāli un atsevišķi stāvošiem šķēršļiem (kalniem, ēkām), kas atrodas viens no otra ar vismaz 20 šķēršļu augstumiem vienādu attālumu.

ĒKAS PARAMETRI:

AUGSTUMS:	$h =$	8.8	m
PLATUMS:	$b =$	20	m
GARUMS:	$d =$	120	m
JUMTA PLAKNES LEŅĶIS:	$\alpha =$	10	°
SLODZES LAUKUMS:	$>$	par	10 m ²

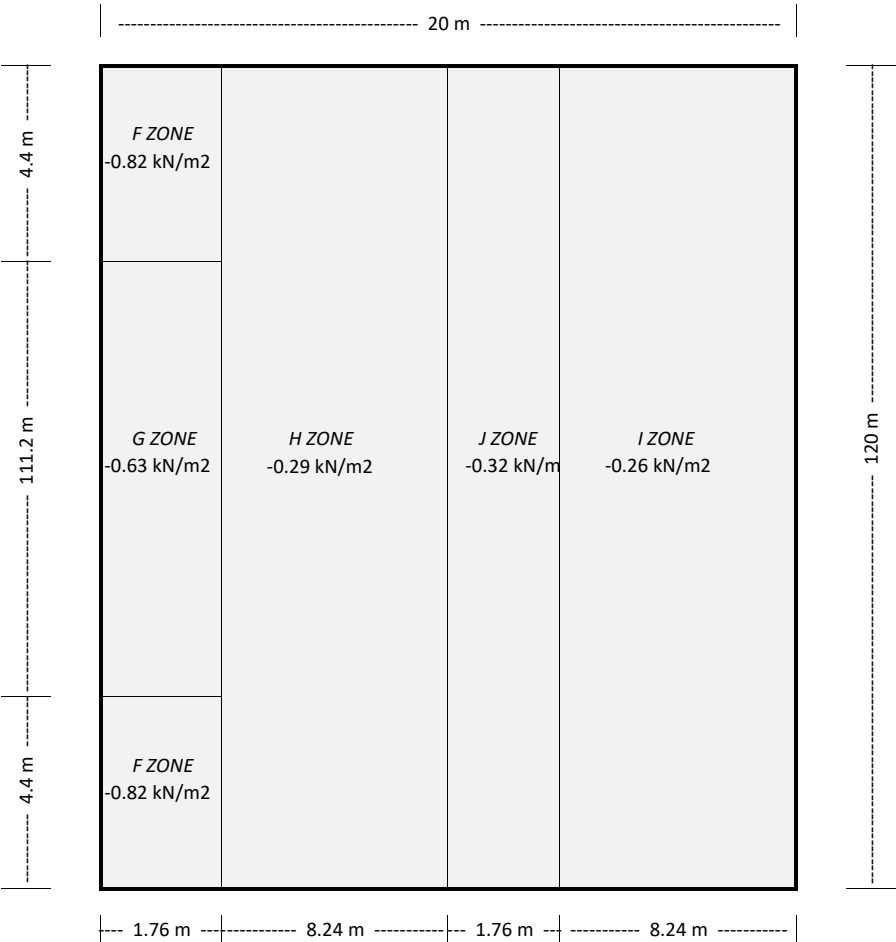
Aprēķins:

GAISA BLĪVUMS:	$\rho =$	1.25	kg/m ³
VĒJA SPIEDIENA PAMATVĒRTĪBA:	$q_b =$	0.275625	kN/m ²
APVIDUS FAKTORS:	$k_r =$	0.190	
APVIDUS NELĪDZENUMA FAKTORS:	$c_r(z) =$	0.98	
APVIDUS OROGRĀFIJAS FAKTORS:	$c_o(z) =$	1	
VĒJA ĀTRUMS AUGSTUMĀ Z:	$V_m(z) =$	20.63	m/s
TURBULENCES INTENSITĀTE AUGSTUMĀ Z:	$I_v(z) =$	0.19	
VĒJA SPIEDIENS AUGSTUMĀ Z:	$q_p(z) =$	0.63	kN/m ²
APVIDUS EKSPOZĪCIJAS FAKTORS:	$c_e(z) =$	2.27	
ĀRĒJĀ SPIEDIENA KOEFICIENTI:	$c_{pe} =$		
	$e =$	17.6	m
	$e/2 =$	8.8	m
	$e/4 =$	4.4	m
	$e/10 =$	1.76	m
F ZONA	$=$	-0.81	kN/m ²
G ZONA	$=$	-0.63	kN/m ²
H ZONA	$=$	-0.28	kN/m ²
I ZONA	$=$	-0.31	kN/m ²
J ZONA	$=$	-0.25	kN/m ²

VĒJA VIRZIENS:

VĒRTĪBAS:

$q_p(z) =$ kN/m²



Vēja slodzes noteikšana jumtam (Virziens X “+” vērtības)

APVIDUS PARAMETRI:

FUNDAMENTĀLAIS VĒJA PAMATĀTRUMS:	$v_{b,0}$ =	21	m/s	
APVIDUS KATEGORIJA:		II		Teritorijas ar vāju veģetāciju, piemēram, zāli un atsevišķi stāvošiem šķēršļiem (kalniem, ēkām), kas atrodas viens no otra ar vismaz 20 šķēršļu augstumiem vienādu attālumu.

ĒKAS PARAMETRI:

AUGSTUMS:	h =	8.8	m
PLATUMS:	b =	20	m
GARUMS:	d =	120	m
JUMTA PLAKNES LEŅĶIS:	α =	10	°
SLODZES LAUKUMS:		>	par 10 m ²

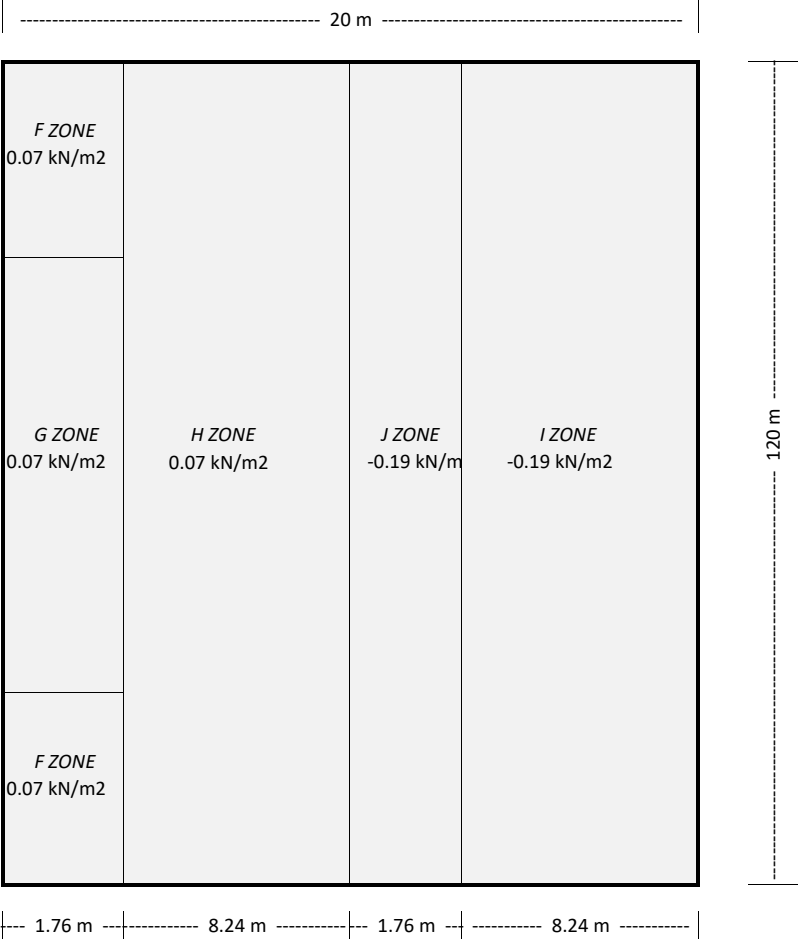
Aprēķins:

GAISA BLĪVUMS:	ρ =	1.25	kg/m ³
VĒJA SPIEDIENA PAMATVĒRTĪBA:	q_b =	0.275625	kN/m ²
APVIDUS FAKTORS:	k_f =	0.190	
APVIDUS NELĪDZENUMA FAKTORS:	$c_r(z)$ =	0.98	
APVIDUS OROGRĀFIJAS FAKTORS:	$c_o(z)$ =	1	
VĒJA ĀTRUMS AUGSTUMĀ Z:	$V_m(z)$ =	20.63	m/s
TURBULENCES INTENSITĀTE AUGSTUMĀ Z:	$I_v(z)$ =	0.19	
VĒJA SPIEDIENS AUGSTUMĀ Z:	$q_p(z)$ =	0.63	kN/m ²
APVIDUS EKSPOZĪCIJAS FAKTORS:	$c_e(z)$ =	2.27	
ĀRĒJĀ SPIEDIENA KOEFICIENTI:	C_{pe} =		
	e =	17.6	m
	$e/2$ =	8.8	m
	$e/4$ =	4.4	m
	$e/10$ =	1.76	m
	$F\ ZONA$ =	0.06	kN/m ²
	$G\ ZONA$ =	0.06	kN/m ²
	$H\ ZONA$ =	0.06	kN/m ²
	$I\ ZONA$ =	-0.19	kN/m ²
	$J\ ZONA$ =	-0.19	kN/m ²

VĒJA VIRZIENS:

VĒRTĪBAS:

$q_p(z)$ = kN/m²



Vēja slodzes noteikšana jumtam (Virziens Z)

APVIDUS PARAMETRI:

FUNDAMENTĀLAIS VĒJA PAMATĀTRUMS:	$v_{b,0} =$	21	m/s	
APVIDUS KATEGORIJA:		II		Teritorijas ar vāju veģetāciju, piemēram, zāli un atsevišķi stāvošiem šķēršļiem (kalniem, ēkām), kas atrodas viens no otra ar vismaz 20 šķēršļu augstumiem vienādu attālumu.

ĒKAS PARAMETRI:

AUGSTUMS:	$h =$	8.8	m
PLATUMS:	$b =$	20	m
GARUMS:	$d =$	120	m
JUMTA PLAKNES LEŅĶIS:	$\alpha =$	10	°
SLODZES LAUKUMS:	$>$	par	10 m ²

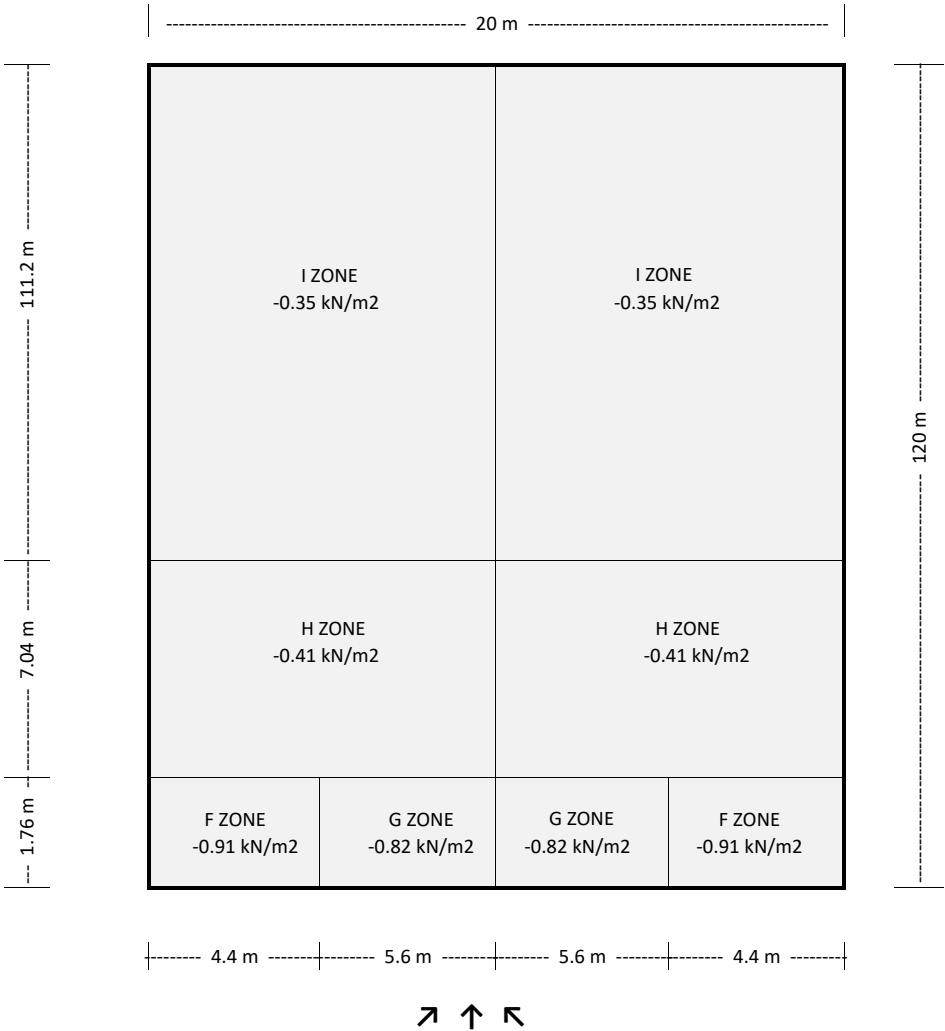
Aprēķins:

GAISA BLĪVUMS:	$\rho =$	1.25	kg/m ³
VĒJA SPIEDIENA PAMATVĒRTĪBA:	$q_b =$	0.275625	kN/m ²
APVIDUS FAKTORS:	$k_f =$	0.190	
APVIDUS NELĪDZENUMA FAKTORS:	$c_f(z) =$	0.98	
APVIDUS OROGRĀFIJAS FAKTORS:	$c_o(z) =$	1	
VĒJA ĀTRUMS AUGSTUMĀ Z:	$V_m(z) =$	20.63	m/s
TURBULENCES INTENSITĀTE AUGSTUMĀ Z:	$I_v(z) =$	0.19	
VĒJA SPIEDIENS AUGSTUMĀ Z:	$q_p(z) =$	0.63	kN/m ²
APVIDUS EKSPOZĪCIJAS FAKTORS:	$c_e(z) =$	2.27	
ĀRĒJĀ SPIEDIENA KOEFICIENTI:	$c_{pe} =$		
	$e =$	17.6	m
	$e/2 =$	8.8	m
	$e/4 =$	4.4	m
	$e/10 =$	1.76	m
F ZONA	$=$	-0.91	kN/m ²
G ZONA	$=$	-0.81	kN/m ²
H ZONA	$=$	-0.41	kN/m ²
I ZONA	$=$	-0.34	kN/m ²
J ZONA	$=$	0.00	kN/m ²

VĒJA VIRZIENS:



$q_p(z) =$ 0.63 kN/m²



Primary Load Cases

Number	Name	Type
1	SW	Dead
2	JUMTA KONSTRUKCIJA	Dead
3	SNIEGS	Snow
4	TEHNOLOGIJAS IEKARTAS	Dead
5	EKSPLUATACIJAS SLODZE	Roof Live
6	VEJS X	Wind
7	VEJS Z	Wind

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
8	COMBINATION LOAD CASE 8	1	SW	1.00
		2	JUMTA KONSTRUKCIJA	1.00
		3	SNIEGS	1.00
		4	TEHNOLOGIJAS IEKARTAS	1.00
		5	EKSPLUATACIJAS SLODZE	1.00
		6	VEJS X	1.00
9	COMBINATION LOAD CASE 9	1	SW	1.00
		2	JUMTA KONSTRUKCIJA	1.00
		3	SNIEGS	1.00
		4	TEHNOLOGIJAS IEKARTAS	1.00
		5	EKSPLUATACIJAS SLODZE	1.00
		7	VEJS Z	1.00
10	COMBINATION LOAD CASE 10	1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35
		3	SNIEGS	1.50
		5	EKSPLUATACIJAS SLODZE	1.50
11	COMBINATION LOAD CASE 11	5	EKSPLUATACIJAS SLODZE	1.50
		6	VEJS X	1.50
		1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35
12	COMBINATION LOAD CASE 12	1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35
		5	EKSPLUATACIJAS SLODZE	1.50
		7	VEJS Z	1.50
13	COMBINATION LOAD CASE 13	1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35
		3	SNIEGS	1.50
		5	EKSPLUATACIJAS SLODZE	1.50
		6	VEJS X	0.90
14	COMBINATION LOAD CASE 14	7	VEJS Z	0.90
		3	SNIEGS	1.50
		5	EKSPLUATACIJAS SLODZE	1.50
		1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35

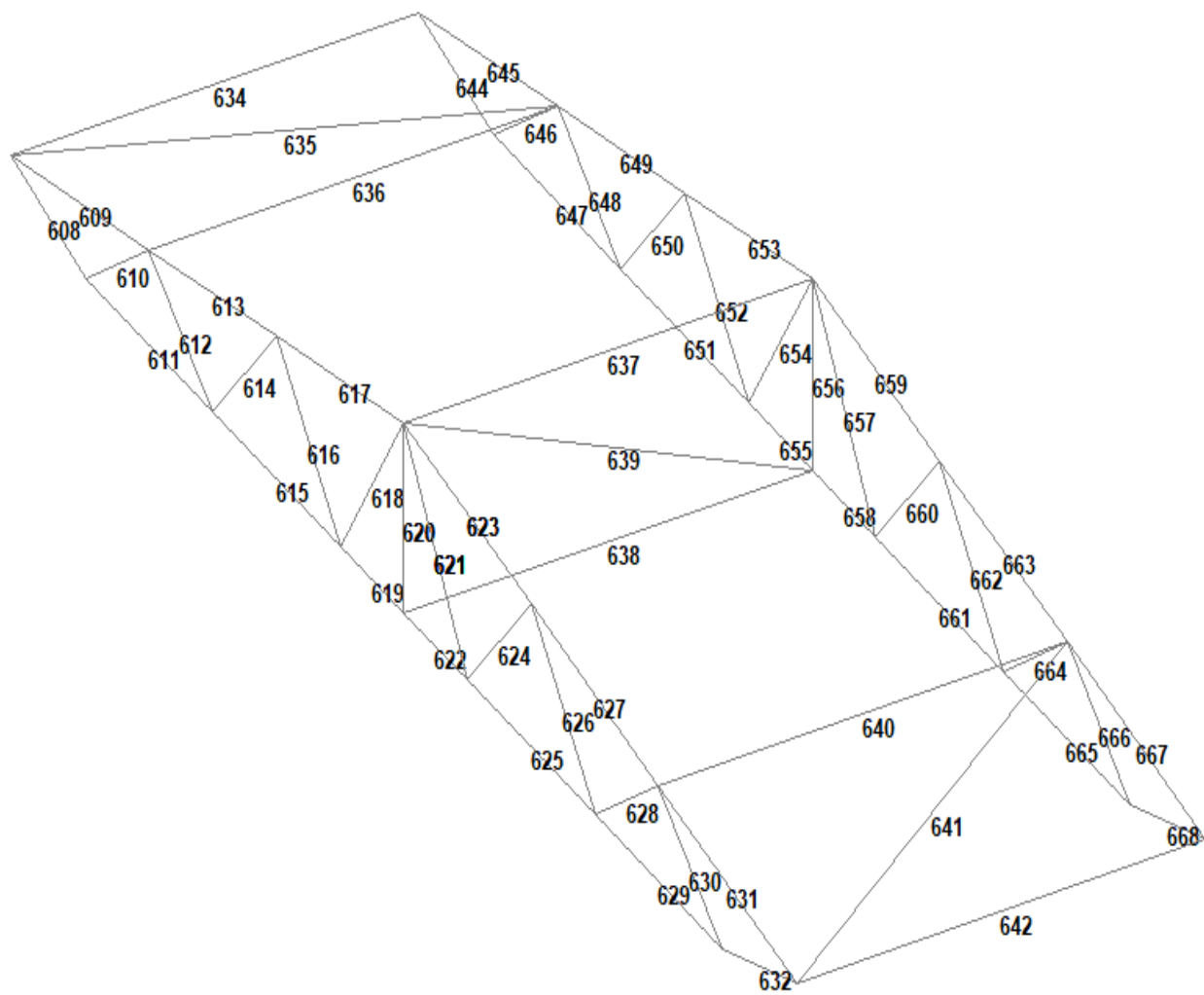
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
15	COMBINATION LOAD CASE 15	1	SW	1.35
		2	JUMTA KONSTRUKCIJA	1.35
		4	TEHNOLOGIJAS IEKARTAS	1.35
		3	SNIEGS	0.75
		5	EKSPLUATACIJAS SLODZE	1.50
		6	VEJS X	1.50
16	COMBINATION LOAD CASE 16	5	EKSPLUATACIJAS SLODZE	1.50
		7	VEJS Z	1.50
		3	SNIEGS	0.75

Section Properties

Prop	Section	Area (cm ²)	I _{yy} (cm ⁴)	I _{zz} (cm ⁴)	J (cm ⁴)	Material
1	200X120X6.3RHS	38.300	929.000	2.07E+3	1.99E+3	STEEL
2	120X6.3SHS	28.200	603.000	603.000	926.023	STEEL
3	80X4SHS	12.000	114.000	114.000	175.590	STEEL
4	HE220A	64.300	1.95E+3	5.41E+3	28.500	STEEL
5	HE220A	64.300	1.95E+3	5.41E+3	28.500	STEEL
6	100X5SHS	18.700	279.000	279.000	428.688	STEEL
7	100X5SHS	18.700	279.000	279.000	428.688	STEEL
8	120X5SHS	22.700	498.000	498.000	760.437	STEEL

KOPŅU APRĒĶINA REZULTĀTI



Beam End Forces

Sign convention is as the action of the joint on the beam.

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
608	271	8:COMBINATIC	-376.586	-3.699	0.007	-0.003	0.004	-6.106
		9:COMBINATIC	-375.858	-3.692	-0.116	0.055	-0.026	-6.099
		10:COMBINAT	-548.023	-5.385	0.012	-0.005	0.008	-8.994
		11:COMBINATI	-226.364	-2.207	0.003	-0.001	0.002	-2.890
		12:COMBINAT	-225.272	-2.197	-0.181	0.085	-0.044	-2.881
		13:COMBINAT	-547.936	-5.384	0.010	-0.004	0.007	-8.993
		14:COMBINAT	-547.280	-5.378	-0.100	0.048	-0.020	-8.987
		15:COMBINAT	-387.121	-3.795	0.006	-0.002	0.004	-5.941
		16:COMBINAT	-233.006	-2.302	-0.181	0.085	-0.044	-4.434
	274	8:COMBINATIC	376.470	4.110	-0.007	0.003	-0.018	-1.603
		9:COMBINATIC	375.742	4.104	0.116	-0.055	0.255	-1.597
		10:COMBINAT	547.866	5.941	-0.012	0.005	-0.031	-2.187
		11:COMBINATI	226.207	2.763	-0.003	0.001	-0.007	-2.016
		12:COMBINAT	225.115	2.753	0.181	-0.085	0.401	-2.007
		13:COMBINAT	547.779	5.940	-0.010	0.004	-0.028	-2.186
		14:COMBINAT	547.123	5.934	0.100	-0.048	0.217	-2.180
		15:COMBINAT	386.964	4.351	-0.006	0.002	-0.016	-2.100
		16:COMBINAT	233.006	2.302	0.181	-0.085	0.401	-0.112
609	271	8:COMBINATIC	341.292	24.743	0.017	0.000	-0.005	6.106
		9:COMBINATIC	342.268	24.740	-0.235	-0.038	0.047	6.099
		10:COMBINAT	496.287	36.635	0.031	0.001	-0.009	8.994
		11:COMBINATI	204.634	10.335	0.007	0.000	-0.002	2.890
		12:COMBINAT	206.098	10.331	-0.372	-0.058	0.076	2.881
		13:COMBINAT	496.510	36.635	0.028	0.001	-0.008	8.993
		14:COMBINAT	497.388	36.632	-0.200	-0.034	0.039	8.987
		15:COMBINAT	350.647	23.485	0.016	0.000	-0.005	5.941
		16:COMBINAT	214.596	19.156	-0.371	-0.058	0.076	4.434
	272	8:COMBINATIC	-332.353	25.924	-0.017	-0.000	-0.057	-8.217
		9:COMBINATIC	-333.329	25.927	0.235	0.038	0.793	-8.221
		10:COMBINAT	-483.018	38.578	-0.031	-0.001	-0.102	-12.466
		11:COMBINATI	-201.146	9.437	-0.007	-0.000	-0.022	-1.286
		12:COMBINAT	-202.609	9.442	0.372	0.058	1.252	-1.292
		13:COMBINAT	-483.241	38.578	-0.028	-0.001	-0.090	-12.466
		14:COMBINAT	-484.119	38.581	0.200	0.034	0.674	-12.470
		15:COMBINAT	-342.268	24.008	-0.016	-0.000	-0.052	-6.876
		16:COMBINAT	-207.470	21.236	0.371	0.058	1.250	-8.151
610	274	8:COMBINATIC	158.055	0.423	0.008	0.001	-0.005	0.020
		9:COMBINATIC	157.732	0.421	-0.081	-0.021	0.041	0.018
		10:COMBINAT	231.028	0.658	0.014	0.002	-0.008	0.087
		11:COMBINATI	87.727	-0.045	0.003	0.000	-0.002	-0.389
		12:COMBINAT	87.242	-0.048	-0.131	-0.032	0.066	-0.393
		13:COMBINAT	230.991	0.658	0.012	0.001	-0.007	0.086
		14:COMBINAT	230.700	0.656	-0.068	-0.018	0.034	0.084
		15:COMBINAT	159.346	0.306	0.007	0.001	-0.004	-0.152
		16:COMBINAT	103.812	0.508	-0.130	-0.032	0.066	0.342
	272	8:COMBINATIC	-157.948	-0.274	-0.008	-0.001	-0.011	0.673
		9:COMBINATIC	-157.625	-0.272	0.081	0.021	0.121	0.671
		10:COMBINAT	-230.884	-0.456	-0.014	-0.002	-0.020	1.023
		11:COMBINATI	-87.583	0.247	-0.003	-0.000	-0.004	0.099

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	-87.098	0.250	0.131	0.032	0.194	0.096
		13:COMBINAT	-230.847	-0.456	-0.012	-0.001	-0.017	1.022
		14:COMBINAT	-230.556	-0.454	0.068	0.018	0.101	1.021
		15:COMBINAT	-159.202	-0.104	-0.007	-0.001	-0.010	0.560
		16:COMBINAT	-103.812	-0.508	0.130	0.032	0.193	0.670
611	274	8:COMBINAT	-491.733	6.179	-0.001	-0.001	0.021	1.583
		9:COMBINAT	-490.768	6.177	-0.035	0.024	-0.281	1.579
		10:COMBINAT	-716.395	8.407	-0.002	-0.002	0.038	2.100
		11:COMBINAT	-289.826	7.886	-0.000	-0.001	0.008	2.405
		12:COMBINAT	-288.380	7.883	-0.051	0.038	-0.445	2.399
		13:COMBINAT	-716.280	8.406	-0.002	-0.002	0.033	2.099
		14:COMBINAT	-715.412	8.404	-0.032	0.021	-0.239	2.096
		15:COMBINAT	-503.015	8.146	-0.001	-0.001	0.019	2.252
		16:COMBINAT	-309.008	0.375	-0.051	0.038	-0.444	-0.231
	275	8:COMBINAT	491.733	6.186	0.001	0.001	-0.017	-1.594
		9:COMBINAT	490.768	6.189	0.035	-0.024	0.393	-1.598
		10:COMBINAT	716.395	8.287	0.002	0.002	-0.030	-1.907
		11:COMBINAT	289.826	8.808	0.000	0.001	-0.007	-3.898
		12:COMBINAT	288.380	8.811	0.051	-0.038	0.609	-3.904
		13:COMBINAT	716.280	8.288	0.002	0.002	-0.027	-1.907
		14:COMBINAT	715.412	8.290	0.032	-0.021	0.343	-1.910
		15:COMBINAT	503.015	8.548	0.001	0.001	-0.016	-2.903
		16:COMBINAT	309.008	-0.375	0.051	-0.038	0.608	1.444
612	272	8:COMBINAT	-25.607	-0.162	-0.007	-0.001	0.009	-0.398
		9:COMBINAT	-25.403	-0.160	0.070	0.027	-0.102	-0.396
		10:COMBINAT	-35.897	-0.246	-0.014	-0.002	0.017	-0.580
		11:COMBINAT	-25.343	-0.032	-0.003	-0.000	0.004	-0.238
		12:COMBINAT	-25.038	-0.029	0.114	0.041	-0.163	-0.235
		13:COMBINAT	-35.873	-0.245	-0.012	-0.001	0.015	-0.580
		14:COMBINAT	-35.690	-0.244	0.058	0.023	-0.085	-0.578
		15:COMBINAT	-30.600	-0.139	-0.007	-0.001	0.009	-0.409
		16:COMBINAT	-7.315	-0.152	0.114	0.041	-0.163	-0.246
	275	8:COMBINAT	25.500	0.312	0.007	0.001	0.005	-0.073
		9:COMBINAT	25.297	0.310	-0.070	-0.027	-0.039	-0.072
		10:COMBINAT	35.753	0.447	0.014	0.002	0.010	-0.110
		11:COMBINAT	25.199	0.234	0.003	0.000	0.002	-0.026
		12:COMBINAT	24.894	0.231	-0.114	-0.041	-0.064	-0.024
		13:COMBINAT	35.729	0.447	0.012	0.001	0.009	-0.109
		14:COMBINAT	35.546	0.445	-0.058	-0.023	-0.031	-0.108
		15:COMBINAT	30.456	0.340	0.007	0.001	0.005	-0.068
		16:COMBINAT	7.315	0.152	-0.114	-0.041	-0.064	-0.058
613	272	8:COMBINAT	492.624	23.521	-0.021	-0.010	0.060	7.942
		9:COMBINAT	493.165	23.521	0.134	0.049	-0.821	7.946
		10:COMBINAT	716.221	34.948	-0.038	-0.017	0.107	12.024
		11:COMBINAT	297.832	8.952	-0.008	-0.003	0.023	1.426
		12:COMBINAT	298.643	8.952	0.224	0.085	-1.297	1.432
		13:COMBINAT	716.394	34.947	-0.033	-0.015	0.095	12.024
		14:COMBINAT	716.881	34.948	0.106	0.038	-0.698	12.027
		15:COMBINAT	507.170	21.950	-0.019	-0.009	0.055	6.725
		16:COMBINAT	306.136	18.939	0.224	0.084	-1.296	7.727

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	273	8:COMBINATIC	-484.405	23.116	0.021	0.010	0.009	-7.275
		9:COMBINATIC	-484.946	23.116	-0.134	-0.049	0.381	-7.279
		10:COMBINAT	-704.021	34.282	0.038	0.017	0.018	-10.929
		11:COMBINATI	-294.624	9.247	0.008	0.003	0.002	-1.912
		12:COMBINAT	-295.436	9.247	-0.224	-0.085	0.560	-1.917
		13:COMBINAT	-704.193	34.282	0.033	0.015	0.015	-10.929
		14:COMBINAT	-704.680	34.282	-0.106	-0.038	0.349	-10.933
		15:COMBINAT	-499.466	21.765	0.019	0.009	0.008	-6.421
		16:COMBINAT	-299.584	18.240	-0.224	-0.084	0.560	-6.576
614	275	8:COMBINATIC	2.803	0.146	0.001	-0.000	0.002	-0.125
		9:COMBINATIC	2.639	0.146	-0.017	-0.019	-0.028	-0.125
		10:COMBINAT	4.944	0.204	0.002	-0.001	0.004	-0.187
		11:COMBINATI	-4.294	0.151	0.000	-0.000	0.001	-0.038
		12:COMBINAT	-4.540	0.151	-0.027	-0.029	-0.044	-0.038
		13:COMBINAT	4.925	0.204	0.002	-0.000	0.003	-0.187
		14:COMBINAT	4.777	0.204	-0.015	-0.018	-0.024	-0.187
		15:COMBINAT	0.309	0.178	0.001	-0.000	0.002	-0.112
		16:COMBINAT	6.429	0.038	-0.027	-0.029	-0.044	-0.109
	273	8:COMBINATIC	-2.644	0.003	-0.001	0.000	-0.004	0.295
		9:COMBINATIC	-2.480	0.003	0.017	0.019	0.068	0.295
		10:COMBINAT	-4.729	-0.003	-0.002	0.001	-0.008	0.432
		11:COMBINATI	4.509	0.050	-0.000	0.000	-0.002	0.158
		12:COMBINAT	4.755	0.051	0.027	0.029	0.107	0.157
		13:COMBINAT	-4.710	-0.003	-0.002	0.000	-0.007	0.432
		14:COMBINAT	-4.562	-0.002	0.015	0.018	0.058	0.432
		15:COMBINAT	-0.094	0.024	-0.001	0.000	-0.004	0.295
		16:COMBINAT	-6.429	-0.038	0.027	0.029	0.107	0.199
615	275	8:COMBINATIC	-514.469	6.243	-0.010	-0.003	0.012	1.792
		9:COMBINATIC	-513.226	6.244	0.053	0.061	-0.344	1.794
		10:COMBINAT	-748.972	8.392	-0.018	-0.006	0.021	2.203
		11:COMBINATI	-307.416	8.686	-0.004	-0.001	0.005	3.962
		12:COMBINAT	-305.551	8.687	0.090	0.096	-0.529	3.965
		13:COMBINAT	-748.825	8.392	-0.015	-0.006	0.019	2.203
		14:COMBINAT	-747.706	8.393	0.041	0.053	-0.302	2.205
		15:COMBINAT	-528.071	8.539	-0.009	-0.003	0.011	3.083
		16:COMBINAT	-319.415	-0.213	0.090	0.096	-0.529	-1.278
	276	8:COMBINATIC	514.469	6.122	0.010	0.003	0.019	-1.596
		9:COMBINATIC	513.226	6.122	-0.053	-0.061	0.173	-1.596
		10:COMBINAT	748.972	8.302	0.018	0.006	0.037	-2.056
		11:COMBINATI	307.416	8.008	0.004	0.001	0.006	-2.863
		12:COMBINAT	305.551	8.007	-0.090	-0.096	0.237	-2.863
		13:COMBINAT	748.825	8.301	0.015	0.006	0.031	-2.056
		14:COMBINAT	747.706	8.301	-0.041	-0.053	0.170	-2.056
		15:COMBINAT	528.071	8.155	0.009	0.003	0.017	-2.459
		16:COMBINAT	319.415	0.213	-0.090	-0.096	0.237	0.589
616	273	8:COMBINATIC	51.453	0.285	-0.000	0.002	-0.001	0.093
		9:COMBINATIC	51.570	0.287	0.013	0.010	-0.013	0.095
		10:COMBINAT	75.791	0.393	-0.001	0.003	-0.001	0.120
		11:COMBINATI	24.125	0.331	-0.000	0.001	-0.000	0.167
		12:COMBINAT	24.301	0.333	0.019	0.013	-0.018	0.169

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	75.805	0.393	-0.000	0.003	-0.001	0.120
		14:COMBINAT	75.911	0.394	0.011	0.010	-0.012	0.122
		15:COMBINAT	49.970	0.362	-0.000	0.002	-0.001	0.144
		16:COMBINAT	37.859	0.047	0.019	0.013	-0.018	-0.031
	276	8:COMBINAT	-51.613	-0.136	0.000	-0.002	0.001	0.406
		9:COMBINAT	-51.730	-0.137	-0.013	-0.010	-0.017	0.407
		10:COMBINAT	-76.007	-0.191	0.001	-0.003	0.003	0.571
		11:COMBINAT	-24.340	-0.129	0.000	-0.001	0.000	0.379
		12:COMBINAT	-24.516	-0.131	-0.019	-0.013	-0.027	0.380
		13:COMBINAT	-76.020	-0.191	0.000	-0.003	0.002	0.571
		14:COMBINAT	-76.126	-0.192	-0.011	-0.010	-0.014	0.573
		15:COMBINAT	-50.185	-0.160	0.000	-0.002	0.001	0.475
		16:COMBINAT	-37.859	-0.047	-0.019	-0.013	-0.027	0.143
617	273	8:COMBINAT	458.160	21.258	-0.020	-0.013	-0.004	6.887
		9:COMBINAT	458.505	21.257	0.104	0.080	-0.431	6.890
		10:COMBINAT	666.048	31.606	-0.036	-0.023	-0.009	10.377
		11:COMBINAT	277.583	7.943	-0.007	-0.005	-0.000	1.587
		12:COMBINAT	278.100	7.941	0.178	0.134	-0.642	1.592
		13:COMBINAT	666.197	31.605	-0.031	-0.020	-0.007	10.377
		14:COMBINAT	666.508	31.604	0.080	0.063	-0.391	10.379
		15:COMBINAT	471.940	19.774	-0.018	-0.011	-0.003	5.982
		16:COMBINAT	283.972	17.237	0.178	0.134	-0.642	6.408
	267	8:COMBINAT	-449.926	25.379	0.020	0.013	0.068	-13.667
		9:COMBINAT	-450.271	25.381	-0.104	-0.080	0.089	-13.674
		10:COMBINAT	-653.826	37.624	0.036	0.023	0.126	-20.278
		11:COMBINAT	-274.370	10.257	0.007	0.005	0.024	-5.393
		12:COMBINAT	-274.887	10.258	-0.178	-0.134	0.055	-5.403
		13:COMBINAT	-653.975	37.624	0.031	0.020	0.110	-20.279
		14:COMBINAT	-654.286	37.625	-0.080	-0.063	0.128	-20.285
		15:COMBINAT	-464.223	23.941	0.018	0.011	0.061	-12.836
		16:COMBINAT	-277.409	19.942	-0.178	-0.134	0.058	-10.857
618	276	8:COMBINAT	-57.670	0.195	-0.002	-0.002	0.003	0.199
		9:COMBINAT	-57.766	0.195	0.003	-0.009	-0.026	0.199
		10:COMBINAT	-83.423	0.268	-0.003	-0.004	0.004	0.270
		11:COMBINAT	-37.976	0.232	-0.001	-0.001	0.001	0.258
		12:COMBINAT	-38.121	0.232	0.006	-0.012	-0.041	0.258
		13:COMBINAT	-83.434	0.268	-0.003	-0.004	0.004	0.270
		14:COMBINAT	-83.521	0.268	0.001	-0.010	-0.021	0.270
		15:COMBINAT	-60.709	0.250	-0.002	-0.002	0.002	0.264
		16:COMBINAT	-33.289	0.026	0.006	-0.012	-0.041	0.009
	267	8:COMBINAT	57.882	-0.046	0.002	0.002	0.002	0.140
		9:COMBINAT	57.979	-0.046	-0.003	0.009	0.018	0.140
		10:COMBINAT	83.709	-0.067	0.003	0.004	0.004	0.201
		11:COMBINAT	38.262	-0.031	0.001	0.001	0.001	0.112
		12:COMBINAT	38.408	-0.030	-0.006	0.012	0.025	0.111
		13:COMBINAT	83.720	-0.067	0.003	0.004	0.004	0.201
		14:COMBINAT	83.808	-0.066	-0.001	0.010	0.018	0.200
		15:COMBINAT	60.995	-0.049	0.002	0.002	0.002	0.156
		16:COMBINAT	33.289	-0.026	-0.006	0.012	0.025	0.064
619	279	8:COMBINAT	-445.721	2.833	-0.008	0.000	0.034	0.573

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		9:COMBINATIC	-444.342	2.838	0.063	0.065	0.044	0.579
		10:COMBINAT	-648.621	3.924	-0.015	0.000	0.065	0.810
		11:COMBINATI	-268.628	3.110	-0.003	0.000	0.012	0.503
		12:COMBINAT	-266.558	3.117	0.104	0.098	0.026	0.512
		13:COMBINAT	-648.457	3.925	-0.013	0.000	0.056	0.811
		14:COMBINAT	-647.215	3.929	0.051	0.059	0.065	0.817
		15:COMBINAT	-458.488	3.517	-0.007	0.000	0.031	0.657
		16:COMBINAT	-274.311	0.603	0.103	0.098	0.028	0.236
	276	8:COMBINATIC	445.721	3.350	0.008	-0.000	-0.021	-0.991
		9:COMBINATIC	444.342	3.345	-0.063	-0.065	-0.146	-0.990
		10:COMBINAT	648.621	4.423	0.015	-0.000	-0.040	-1.215
		11:COMBINATI	268.628	5.237	0.003	-0.000	-0.007	-2.226
		12:COMBINAT	266.558	5.230	-0.104	-0.098	-0.194	-2.224
		13:COMBINAT	648.457	4.422	0.013	-0.000	-0.034	-1.214
		14:COMBINAT	647.215	4.418	-0.051	-0.059	-0.147	-1.213
		15:COMBINAT	458.488	4.830	0.007	-0.000	-0.019	-1.720
		16:COMBINAT	274.311	-0.603	-0.103	-0.098	-0.195	0.740
620	267	8:COMBINATIC	-6.740	0.000	0.000	0.000	0.000	0.000
		9:COMBINATIC	-6.750	0.000	-0.000	0.000	0.000	0.000
		10:COMBINAT	-9.298	0.000	0.000	0.000	0.000	0.000
		11:COMBINATI	-7.669	0.000	0.000	0.000	0.000	0.000
		12:COMBINAT	-7.684	0.000	-0.000	0.000	0.000	0.000
		13:COMBINAT	-9.299	0.000	0.000	0.000	0.000	0.000
		14:COMBINAT	-9.308	0.000	-0.000	0.000	0.000	0.000
		15:COMBINAT	-8.485	0.000	0.000	0.000	0.000	0.000
		16:COMBINAT	-1.206	0.000	-0.000	0.000	0.000	0.000
	279	8:COMBINATIC	6.528	-0.000	-0.000	0.000	0.000	0.000
		9:COMBINATIC	6.538	-0.000	0.000	0.000	0.000	0.000
		10:COMBINAT	9.011	-0.000	-0.000	0.000	0.000	0.000
		11:COMBINATI	7.383	-0.000	-0.000	0.000	0.000	0.000
		12:COMBINAT	7.397	-0.000	0.000	0.000	0.000	0.000
		13:COMBINAT	9.013	-0.000	-0.000	0.000	0.000	0.000
		14:COMBINAT	9.022	-0.000	0.000	0.000	0.000	0.000
		15:COMBINAT	8.198	-0.000	-0.000	0.000	0.000	0.000
		16:COMBINAT	1.206	-0.000	0.000	0.000	0.000	0.000
621	270	8:COMBINATIC	-57.670	0.195	0.002	0.002	-0.003	0.199
		9:COMBINATIC	-57.766	0.195	0.007	-0.004	-0.032	0.199
		10:COMBINAT	-83.423	0.268	0.003	0.004	-0.005	0.270
		11:COMBINATI	-37.976	0.232	0.001	0.001	-0.001	0.258
		12:COMBINAT	-38.121	0.232	0.008	-0.008	-0.045	0.258
		13:COMBINAT	-83.434	0.268	0.003	0.004	-0.004	0.270
		14:COMBINAT	-83.521	0.268	0.007	-0.002	-0.030	0.270
		15:COMBINAT	-60.709	0.250	0.002	0.002	-0.002	0.264
		16:COMBINAT	-33.289	0.026	0.009	-0.008	-0.045	0.009
	267	8:COMBINATIC	57.882	-0.046	-0.002	-0.002	-0.002	0.140
		9:COMBINATIC	57.979	-0.046	-0.007	0.004	0.012	0.140
		10:COMBINAT	83.709	-0.067	-0.003	-0.004	-0.004	0.201
		11:COMBINATI	38.262	-0.031	-0.001	-0.001	-0.001	0.112
		12:COMBINAT	38.408	-0.030	-0.008	0.008	0.021	0.111
		13:COMBINAT	83.720	-0.067	-0.003	-0.004	-0.004	0.201

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		14:COMBINAT	83.808	-0.066	-0.007	0.002	0.009	0.200
		15:COMBINAT	60.995	-0.049	-0.002	-0.002	-0.002	0.156
		16:COMBINAT	33.289	-0.026	-0.009	0.008	0.021	0.064
622	270	8:COMBINAT	-445.721	3.350	0.008	0.000	0.021	0.991
		9:COMBINAT	-444.342	3.345	0.084	0.065	-0.091	0.990
		10:COMBINAT	-648.621	4.423	0.015	0.000	0.040	1.215
		11:COMBINAT	-268.628	5.237	0.003	0.000	0.007	2.226
		12:COMBINAT	-266.558	5.230	0.116	0.098	-0.162	2.224
		13:COMBINAT	-648.457	4.422	0.013	0.000	0.034	1.214
		14:COMBINAT	-647.215	4.418	0.081	0.059	-0.067	1.213
		15:COMBINAT	-458.488	4.830	0.007	0.000	0.019	1.720
		16:COMBINAT	-274.311	-0.603	0.116	0.098	-0.161	-0.740
	279	8:COMBINAT	445.721	2.833	-0.008	-0.000	-0.034	-0.573
		9:COMBINAT	444.342	2.838	-0.084	-0.065	-0.044	-0.579
		10:COMBINAT	648.621	3.924	-0.015	-0.000	-0.065	-0.810
		11:COMBINAT	268.628	3.110	-0.003	-0.000	-0.012	-0.503
		12:COMBINAT	266.558	3.117	-0.116	-0.098	-0.026	-0.512
		13:COMBINAT	648.457	3.925	-0.013	-0.000	-0.056	-0.811
		14:COMBINAT	647.215	3.929	-0.081	-0.059	-0.065	-0.817
		15:COMBINAT	458.488	3.517	-0.007	-0.000	-0.031	-0.657
		16:COMBINAT	274.311	0.603	-0.116	-0.098	-0.028	-0.236
623	266	8:COMBINAT	458.160	21.258	0.020	0.013	0.003	6.887
		9:COMBINAT	458.505	21.257	0.153	0.112	-0.420	6.890
		10:COMBINAT	666.048	31.606	0.036	0.024	0.007	10.377
		11:COMBINAT	277.583	7.943	0.007	0.005	-0.000	1.587
		12:COMBINAT	278.100	7.941	0.208	0.153	-0.635	1.592
		13:COMBINAT	666.197	31.605	0.032	0.021	0.005	10.377
		14:COMBINAT	666.508	31.604	0.152	0.110	-0.376	10.379
		15:COMBINAT	471.940	19.774	0.018	0.012	0.002	5.982
		16:COMBINAT	283.972	17.237	0.208	0.154	-0.635	6.408
	267	8:COMBINAT	-449.926	25.379	-0.020	-0.013	-0.068	-13.667
		9:COMBINAT	-450.271	25.381	-0.153	-0.112	-0.084	-13.674
		10:COMBINAT	-653.826	37.624	-0.036	-0.024	-0.126	-20.278
		11:COMBINAT	-274.370	10.257	-0.007	-0.005	-0.024	-5.393
		12:COMBINAT	-274.887	10.258	-0.208	-0.153	-0.048	-5.403
		13:COMBINAT	-653.975	37.624	-0.032	-0.021	-0.110	-20.279
		14:COMBINAT	-654.286	37.625	-0.152	-0.110	-0.124	-20.285
		15:COMBINAT	-464.223	23.941	-0.018	-0.012	-0.061	-12.836
		16:COMBINAT	-277.409	19.942	-0.208	-0.154	-0.050	-10.857
624	266	8:COMBINAT	51.453	0.285	0.000	-0.002	0.001	0.093
		9:COMBINAT	51.570	0.287	0.013	0.006	-0.011	0.095
		10:COMBINAT	75.791	0.393	0.001	-0.003	0.001	0.120
		11:COMBINAT	24.125	0.331	0.000	-0.001	0.000	0.167
		12:COMBINAT	24.301	0.333	0.020	0.011	-0.017	0.169
		13:COMBINAT	75.805	0.393	0.001	-0.003	0.001	0.120
		14:COMBINAT	75.911	0.394	0.012	0.004	-0.009	0.122
		15:COMBINAT	49.970	0.362	0.000	-0.002	0.001	0.144
		16:COMBINAT	37.859	0.047	0.020	0.010	-0.017	-0.031
	270	8:COMBINAT	-51.613	-0.136	-0.000	0.002	-0.001	0.406
		9:COMBINAT	-51.730	-0.137	-0.013	-0.006	-0.021	0.407

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		10:COMBINAT	-76.007	-0.191	-0.001	0.003	-0.003	0.571
		11:COMBINAT	-24.340	-0.129	-0.000	0.001	-0.000	0.379
		12:COMBINAT	-24.516	-0.131	-0.020	-0.011	-0.030	0.380
		13:COMBINAT	-76.020	-0.191	-0.001	0.003	-0.002	0.571
		14:COMBINAT	-76.126	-0.192	-0.012	-0.004	-0.020	0.573
		15:COMBINAT	-50.185	-0.160	-0.000	0.002	-0.001	0.475
		16:COMBINAT	-37.859	-0.047	-0.020	-0.010	-0.030	0.143
625	269	8:COMBINAT	-514.469	6.243	0.010	0.004	-0.013	1.792
		9:COMBINAT	-513.226	6.244	0.077	0.070	-0.373	1.794
		10:COMBINAT	-748.972	8.392	0.018	0.006	-0.022	2.203
		11:COMBINAT	-307.416	8.686	0.004	0.001	-0.005	3.962
		12:COMBINAT	-305.551	8.687	0.105	0.101	-0.547	3.965
		13:COMBINAT	-748.825	8.392	0.016	0.006	-0.020	2.203
		14:COMBINAT	-747.706	8.393	0.076	0.066	-0.344	2.205
		15:COMBINAT	-528.071	8.539	0.009	0.003	-0.012	3.083
		16:COMBINAT	-319.415	-0.213	0.105	0.101	-0.547	-1.278
	270	8:COMBINAT	514.469	6.122	-0.010	-0.004	-0.019	-1.596
		9:COMBINAT	513.226	6.122	-0.077	-0.070	0.123	-1.596
		10:COMBINAT	748.972	8.302	-0.018	-0.006	-0.036	-2.056
		11:COMBINAT	307.416	8.008	-0.004	-0.001	-0.006	-2.863
		12:COMBINAT	305.551	8.007	-0.105	-0.101	0.207	-2.863
		13:COMBINAT	748.825	8.301	-0.016	-0.006	-0.031	-2.056
		14:COMBINAT	747.706	8.301	-0.076	-0.066	0.097	-2.056
		15:COMBINAT	528.071	8.155	-0.009	-0.003	-0.017	-2.459
		16:COMBINAT	319.415	0.213	-0.105	-0.101	0.206	0.589
626	269	8:COMBINAT	2.803	0.146	-0.001	0.000	-0.002	-0.125
		9:COMBINAT	2.639	0.146	-0.020	-0.019	-0.033	-0.125
		10:COMBINAT	4.944	0.204	-0.002	0.001	-0.004	-0.187
		11:COMBINAT	-4.294	0.151	-0.000	0.000	-0.001	-0.038
		12:COMBINAT	-4.540	0.151	-0.028	-0.028	-0.047	-0.038
		13:COMBINAT	4.925	0.204	-0.002	0.000	-0.003	-0.187
		14:COMBINAT	4.777	0.204	-0.018	-0.017	-0.031	-0.187
		15:COMBINAT	0.309	0.178	-0.001	0.000	-0.002	-0.112
		16:COMBINAT	6.429	0.038	-0.028	-0.028	-0.047	-0.109
	266	8:COMBINAT	-2.644	0.003	0.001	-0.000	0.005	0.295
		9:COMBINAT	-2.480	0.003	0.020	0.019	0.079	0.295
		10:COMBINAT	-4.729	-0.003	0.002	-0.001	0.008	0.432
		11:COMBINAT	4.509	0.050	0.000	-0.000	0.002	0.158
		12:COMBINAT	4.755	0.051	0.028	0.028	0.114	0.157
		13:COMBINAT	-4.710	-0.003	0.002	-0.000	0.007	0.432
		14:COMBINAT	-4.562	-0.002	0.018	0.017	0.074	0.432
		15:COMBINAT	-0.094	0.024	0.001	-0.000	0.004	0.295
		16:COMBINAT	-6.429	-0.038	0.028	0.028	0.114	0.199
627	265	8:COMBINAT	492.624	23.521	0.021	0.010	-0.061	7.942
		9:COMBINAT	493.165	23.521	0.186	0.073	-0.970	7.946
		10:COMBINAT	716.221	34.948	0.039	0.018	-0.110	12.024
		11:COMBINAT	297.832	8.952	0.008	0.004	-0.024	1.426
		12:COMBINAT	298.643	8.952	0.256	0.099	-1.387	1.432
		13:COMBINAT	716.394	34.947	0.034	0.015	-0.097	12.024
		14:COMBINAT	716.881	34.948	0.183	0.073	-0.915	12.027

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		15:COMBINAT	507.170	21.950	0.019	0.009	-0.056	6.725
		16:COMBINAT	306.136	18.939	0.256	0.099	-1.389	7.727
	266	8:COMBINAT	-484.405	23.116	-0.021	-0.010	-0.008	-7.275
		9:COMBINAT	-484.946	23.116	-0.186	-0.073	0.357	-7.279
		10:COMBINAT	-704.021	34.282	-0.039	-0.018	-0.017	-10.929
		11:COMBINAT	-294.624	9.247	-0.008	-0.004	-0.002	-1.912
		12:COMBINAT	-295.436	9.247	-0.256	-0.099	0.545	-1.917
		13:COMBINAT	-704.193	34.282	-0.034	-0.015	-0.014	-10.929
		14:COMBINAT	-704.680	34.282	-0.183	-0.073	0.314	-10.933
		15:COMBINAT	-499.466	21.765	-0.019	-0.009	-0.007	-6.421
		16:COMBINAT	-299.584	18.240	-0.256	-0.099	0.545	-6.576
628	265	8:COMBINAT	-25.607	-0.162	0.008	0.001	-0.010	-0.398
		9:COMBINAT	-25.403	-0.160	0.089	0.029	-0.125	-0.396
		10:COMBINAT	-35.897	-0.246	0.014	0.002	-0.017	-0.580
		11:COMBINAT	-25.343	-0.032	0.003	0.000	-0.004	-0.238
		12:COMBINAT	-25.038	-0.029	0.125	0.042	-0.177	-0.235
		13:COMBINAT	-35.873	-0.245	0.012	0.001	-0.015	-0.580
		14:COMBINAT	-35.690	-0.244	0.086	0.026	-0.119	-0.578
		15:COMBINAT	-30.600	-0.139	0.007	0.001	-0.009	-0.409
		16:COMBINAT	-7.315	-0.152	0.126	0.042	-0.177	-0.246
	269	8:COMBINAT	25.500	0.312	-0.008	-0.001	-0.006	-0.073
		9:COMBINAT	25.297	0.310	-0.089	-0.029	-0.052	-0.072
		10:COMBINAT	35.753	0.447	-0.014	-0.002	-0.010	-0.110
		11:COMBINAT	25.199	0.234	-0.003	-0.000	-0.002	-0.026
		12:COMBINAT	24.894	0.231	-0.125	-0.042	-0.072	-0.024
		13:COMBINAT	35.729	0.447	-0.012	-0.001	-0.009	-0.109
		14:COMBINAT	35.546	0.445	-0.086	-0.026	-0.051	-0.108
		15:COMBINAT	30.456	0.340	-0.007	-0.001	-0.005	-0.068
		16:COMBINAT	7.315	0.152	-0.126	-0.042	-0.073	-0.058
629	268	8:COMBINAT	-491.733	6.179	0.001	0.001	-0.021	1.583
		9:COMBINAT	-490.768	6.177	-0.032	0.027	-0.333	1.579
		10:COMBINAT	-716.395	8.407	0.002	0.002	-0.038	2.100
		11:COMBINAT	-289.826	7.886	0.000	0.001	-0.008	2.405
		12:COMBINAT	-288.380	7.883	-0.049	0.040	-0.476	2.399
		13:COMBINAT	-716.280	8.406	0.002	0.002	-0.034	2.099
		14:COMBINAT	-715.412	8.404	-0.028	0.026	-0.314	2.096
		15:COMBINAT	-503.015	8.146	0.001	0.001	-0.020	2.252
		16:COMBINAT	-309.008	0.375	-0.049	0.040	-0.477	-0.231
	269	8:COMBINAT	491.733	6.186	-0.001	-0.001	0.018	-1.594
		9:COMBINAT	490.768	6.189	0.032	-0.027	0.435	-1.598
		10:COMBINAT	716.395	8.287	-0.002	-0.002	0.031	-1.907
		11:COMBINAT	289.826	8.808	-0.000	-0.001	0.007	-3.898
		12:COMBINAT	288.380	8.811	0.049	-0.040	0.634	-3.904
		13:COMBINAT	716.280	8.288	-0.002	-0.002	0.028	-1.907
		14:COMBINAT	715.412	8.290	0.028	-0.026	0.404	-1.910
		15:COMBINAT	503.015	8.548	-0.001	-0.001	0.017	-2.903
		16:COMBINAT	309.008	-0.375	0.049	-0.040	0.634	1.444
630	268	8:COMBINAT	158.055	0.423	-0.008	-0.001	0.005	0.020
		9:COMBINAT	157.732	0.421	-0.101	-0.023	0.052	0.018
		10:COMBINAT	231.028	0.658	-0.014	-0.002	0.009	0.087

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		11:COMBINAT	87.727	-0.045	-0.003	-0.000	0.002	-0.389
		12:COMBINAT	87.242	-0.048	-0.142	-0.034	0.073	-0.393
		13:COMBINAT	230.991	0.658	-0.013	-0.001	0.008	0.086
		14:COMBINAT	230.700	0.656	-0.096	-0.021	0.050	0.084
		15:COMBINAT	159.346	0.306	-0.007	-0.001	0.004	-0.152
		16:COMBINAT	103.812	0.508	-0.143	-0.034	0.074	0.342
	265	8:COMBINAT	-157.948	-0.274	0.008	0.001	0.011	0.673
		9:COMBINAT	-157.625	-0.272	0.101	0.023	0.148	0.671
		10:COMBINAT	-230.884	-0.456	0.014	0.002	0.020	1.023
		11:COMBINAT	-87.583	0.247	0.003	0.000	0.004	0.099
		12:COMBINAT	-87.098	0.250	0.142	0.034	0.210	0.096
		13:COMBINAT	-230.846	-0.456	0.013	0.001	0.018	1.022
		14:COMBINAT	-230.556	-0.454	0.096	0.021	0.141	1.021
		15:COMBINAT	-159.202	-0.104	0.007	0.001	0.010	0.560
		16:COMBINAT	-103.812	-0.508	0.143	0.034	0.210	0.670
631	264	8:COMBINAT	341.292	24.743	-0.018	-0.001	0.005	6.106
		9:COMBINAT	342.268	24.740	-0.278	-0.039	0.060	6.099
		10:COMBINAT	496.287	36.635	-0.032	-0.001	0.010	8.994
		11:COMBINAT	204.634	10.335	-0.007	-0.000	0.002	2.890
		12:COMBINAT	206.098	10.331	-0.398	-0.058	0.084	2.881
		13:COMBINAT	496.510	36.635	-0.028	-0.001	0.008	8.993
		14:COMBINAT	497.388	36.632	-0.263	-0.036	0.058	8.987
		15:COMBINAT	350.647	23.485	-0.016	-0.001	0.005	5.941
		16:COMBINAT	214.596	19.156	-0.398	-0.058	0.084	4.434
	265	8:COMBINAT	-332.353	25.924	0.018	0.001	0.058	-8.217
		9:COMBINAT	-333.329	25.927	0.278	0.039	0.934	-8.221
		10:COMBINAT	-483.018	38.578	0.032	0.001	0.104	-12.466
		11:COMBINAT	-201.146	9.437	0.007	0.000	0.023	-1.286
		12:COMBINAT	-202.609	9.442	0.398	0.058	1.337	-1.292
		13:COMBINAT	-483.241	38.578	0.028	0.001	0.092	-12.466
		14:COMBINAT	-484.119	38.581	0.263	0.036	0.881	-12.470
		15:COMBINAT	-342.268	24.008	0.016	0.001	0.054	-6.876
		16:COMBINAT	-207.470	21.236	0.398	0.058	1.338	-8.151
632	264	8:COMBINAT	-376.586	-3.699	-0.007	0.003	-0.005	-6.106
		9:COMBINAT	-375.858	-3.692	-0.132	0.062	-0.037	-6.099
		10:COMBINAT	-548.023	-5.385	-0.012	0.005	-0.008	-8.994
		11:COMBINAT	-226.365	-2.207	-0.003	0.001	-0.002	-2.890
		12:COMBINAT	-225.272	-2.197	-0.191	0.089	-0.050	-2.881
		13:COMBINAT	-547.936	-5.384	-0.011	0.004	-0.007	-8.993
		14:COMBINAT	-547.280	-5.378	-0.124	0.057	-0.036	-8.987
		15:COMBINAT	-387.121	-3.795	-0.006	0.003	-0.004	-5.941
		16:COMBINAT	-233.006	-2.302	-0.191	0.089	-0.051	-4.434
	268	8:COMBINAT	376.470	4.110	0.007	-0.003	0.018	-1.603
		9:COMBINAT	375.742	4.104	0.132	-0.062	0.298	-1.597
		10:COMBINAT	547.866	5.941	0.012	-0.005	0.032	-2.187
		11:COMBINAT	226.207	2.763	0.003	-0.001	0.007	-2.016
		12:COMBINAT	225.115	2.753	0.191	-0.089	0.428	-2.007
		13:COMBINAT	547.779	5.940	0.011	-0.004	0.029	-2.186
		14:COMBINAT	547.123	5.934	0.124	-0.057	0.281	-2.180
		15:COMBINAT	386.964	4.351	0.006	-0.003	0.017	-2.100

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		16:COMBINAT	233.006	2.302	0.191	-0.089	0.428	-0.112
634	271	8:COMBINAT	-5.494	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-0.157	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-7.518	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-3.551	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	4.454	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-7.816	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-3.013	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-5.783	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	4.256	0.000	0.000	0.000	0.000	0.000
	287	8:COMBINAT	5.494	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	0.157	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	7.518	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	3.551	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-4.454	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	7.816	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	3.013	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	5.783	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-4.256	-0.000	-0.000	0.000	0.000	0.000
635	271	8:COMBINAT	33.384	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	8.511	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	49.293	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	19.651	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	-17.659	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	48.843	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	26.457	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	34.097	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	-17.011	-0.000	0.000	0.000	0.000	0.000
	288	8:COMBINAT	-33.295	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	-8.422	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	-49.173	0.675	-0.000	0.000	0.000	0.000
		11:COMBINAT	-19.531	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	17.779	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	-48.723	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	-26.337	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	-33.977	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	17.011	0.000	-0.000	0.000	0.000	0.000
636	272	8:COMBINAT	-0.947	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	8.806	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-0.572	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-1.135	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	13.495	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-1.064	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	7.714	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-1.264	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	13.622	0.000	0.000	0.000	0.000	0.000
	288	8:COMBINAT	0.947	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-8.806	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	0.572	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	1.135	0.582	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	-13.495	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	1.064	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-7.714	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	1.264	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-13.622	-0.000	-0.000	0.000	0.000	0.000
637	267	8:COMBINAT	46.654	0.523	-0.000	0.000	0.000	0.000
		9:COMBINAT	47.557	0.523	-0.000	0.000	0.000	0.000
		10:COMBINAT	69.403	0.706	-0.000	0.000	0.000	0.000
		11:COMBINAT	26.588	0.706	-0.000	0.000	0.000	0.000
		12:COMBINAT	27.944	0.706	-0.000	0.000	0.000	0.000
		13:COMBINAT	68.507	0.706	-0.000	0.000	0.000	0.000
		14:COMBINAT	69.320	0.706	-0.000	0.000	0.000	0.000
		15:COMBINAT	47.249	0.706	-0.000	0.000	0.000	0.000
		16:COMBINAT	29.969	-0.000	-0.000	0.000	0.000	0.000
	283	8:COMBINAT	-46.654	0.523	0.000	0.000	0.000	0.000
		9:COMBINAT	-47.557	0.523	0.000	0.000	0.000	0.000
		10:COMBINAT	-69.403	0.706	0.000	0.000	0.000	0.000
		11:COMBINAT	-26.588	0.706	0.000	0.000	0.000	0.000
		12:COMBINAT	-27.944	0.706	0.000	0.000	0.000	0.000
		13:COMBINAT	-68.507	0.706	0.000	0.000	0.000	0.000
		14:COMBINAT	-69.320	0.706	0.000	0.000	0.000	0.000
		15:COMBINAT	-47.249	0.706	0.000	0.000	0.000	0.000
		16:COMBINAT	-29.969	0.000	0.000	0.000	0.000	0.000
638	279	8:COMBINAT	-17.713	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-17.189	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-25.028	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-10.709	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-9.922	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-25.525	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-25.053	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-18.283	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-11.078	0.000	0.000	0.000	0.000	0.000
	295	8:COMBINAT	17.713	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	17.189	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	25.028	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	10.709	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	9.922	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	25.525	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	25.053	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	18.283	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	11.078	-0.000	-0.000	0.000	0.000	0.000
639	295	8:COMBINAT	-27.338	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-27.310	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-39.719	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-16.930	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-16.888	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-39.709	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-39.683	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-28.316	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-16.531	0.000	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	267	8:COMBINATIC	27.668	0.431	0.000	0.000	0.000	0.000
		9:COMBINATIC	27.640	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	40.165	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	17.377	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	17.334	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	40.155	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	40.130	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	28.762	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	16.531	-0.000	0.000	0.000	0.000	0.000
640	265	8:COMBINATIC	-0.873	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	-9.564	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-0.463	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	-1.095	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-14.132	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-0.956	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-8.778	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-1.189	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-13.996	0.000	0.000	0.000	0.000	0.000
	281	8:COMBINATIC	0.873	0.431	0.000	0.000	0.000	0.000
		9:COMBINATIC	9.564	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	0.463	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	1.095	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	14.132	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	0.956	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	8.778	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	1.189	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	13.996	-0.000	-0.000	0.000	0.000	0.000
641	264	8:COMBINATIC	33.405	0.500	-0.000	0.000	0.000	0.000
		9:COMBINATIC	59.481	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	49.324	0.675	-0.000	0.000	0.000	0.000
		11:COMBINATI	19.663	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	58.778	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	48.873	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	72.342	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	34.118	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	59.428	-0.000	0.000	0.000	0.000	0.000
	281	8:COMBINATIC	-33.315	0.500	0.000	0.000	0.000	0.000
		9:COMBINATIC	-59.392	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	-49.203	0.675	0.000	0.000	0.000	0.000
		11:COMBINATI	-19.542	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	-58.657	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	-48.753	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	-72.222	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	-33.997	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	-59.428	0.000	-0.000	0.000	0.000	0.000
642	264	8:COMBINATIC	-5.483	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	-10.166	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-7.502	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	-3.545	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-10.570	0.582	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	-7.800	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-12.015	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-5.772	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-10.767	0.000	0.000	0.000	0.000	0.000
	280	8:COMBINAT	5.483	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	10.166	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	7.502	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	3.545	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	10.570	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	7.800	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	12.015	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	5.772	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	10.767	-0.000	-0.000	0.000	0.000	0.000
644	287	8:COMBINAT	-360.489	-3.599	0.014	-0.006	0.008	-5.998
		9:COMBINAT	-359.776	-3.611	-0.112	0.053	-0.023	-6.007
		10:COMBINAT	-524.562	-5.238	0.022	-0.009	0.014	-8.836
		11:COMBINAT	-217.353	-2.148	0.007	-0.003	0.004	-2.830
		12:COMBINAT	-216.284	-2.166	-0.182	0.086	-0.043	-2.843
		13:COMBINAT	-524.439	-5.238	0.021	-0.009	0.013	-8.835
		14:COMBINAT	-523.798	-5.249	-0.092	0.044	-0.015	-8.843
		15:COMBINAT	-370.855	-3.693	0.014	-0.006	0.008	-5.833
		16:COMBINAT	-222.401	-2.270	-0.182	0.086	-0.042	-4.388
	290	8:COMBINAT	360.373	4.010	-0.014	0.006	-0.036	-1.514
		9:COMBINAT	359.660	4.022	0.112	-0.053	0.244	-1.529
		10:COMBINAT	524.405	5.794	-0.022	0.009	-0.058	-2.055
		11:COMBINAT	217.196	2.703	-0.007	0.003	-0.018	-1.959
		12:COMBINAT	216.127	2.721	0.182	-0.086	0.402	-1.982
		13:COMBINAT	524.282	5.794	-0.021	0.009	-0.054	-2.055
		14:COMBINAT	523.641	5.804	0.092	-0.044	0.197	-2.068
		15:COMBINAT	370.698	4.249	-0.014	0.006	-0.035	-2.007
		16:COMBINAT	222.401	2.270	0.182	-0.086	0.401	-0.093
645	287	8:COMBINAT	357.821	24.703	0.035	0.002	-0.010	5.998
		9:COMBINAT	355.304	24.701	-0.224	-0.038	0.044	6.007
		10:COMBINAT	520.791	36.577	0.057	0.002	-0.017	8.836
		11:COMBINAT	214.927	10.321	0.017	0.001	-0.005	2.830
		12:COMBINAT	211.153	10.316	-0.371	-0.059	0.076	2.843
		13:COMBINAT	520.671	36.576	0.053	0.002	-0.015	8.835
		14:COMBINAT	518.406	36.573	-0.180	-0.033	0.033	8.843
		15:COMBINAT	367.759	23.448	0.034	0.002	-0.010	5.833
		16:COMBINAT	218.723	19.123	-0.370	-0.059	0.075	4.388
	288	8:COMBINAT	-348.882	25.964	-0.035	-0.002	-0.115	-8.251
		9:COMBINAT	-346.365	25.967	0.224	0.038	0.757	-8.270
		10:COMBINAT	-507.522	38.636	-0.057	-0.002	-0.187	-12.516
		11:COMBINAT	-211.439	9.452	-0.017	-0.001	-0.057	-1.277
		12:COMBINAT	-207.664	9.456	0.371	0.059	1.252	-1.305
		13:COMBINAT	-507.402	38.637	-0.053	-0.002	-0.175	-12.519
		14:COMBINAT	-505.137	38.639	0.180	0.033	0.610	-12.536
		15:COMBINAT	-359.381	24.045	-0.034	-0.002	-0.112	-6.899
		16:COMBINAT	-211.597	21.269	0.370	0.059	1.249	-8.224
646	290	8:COMBINAT	150.776	0.389	0.015	0.002	-0.009	-0.019

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		9:COMBINATIC	150.412	0.391	-0.076	-0.020	0.038	-0.016
		10:COMBINAT	220.423	0.607	0.025	0.003	-0.015	0.028
		11:COMBINATI	83.658	-0.063	0.007	0.001	-0.004	-0.411
		12:COMBINAT	83.112	-0.059	-0.130	-0.033	0.066	-0.406
		13:COMBINAT	220.366	0.607	0.023	0.003	-0.014	0.028
		14:COMBINAT	220.039	0.609	-0.059	-0.017	0.028	0.031
		15:COMBINAT	151.993	0.272	0.015	0.002	-0.009	-0.192
		16:COMBINAT	98.933	0.492	-0.129	-0.033	0.066	0.326
	288	8:COMBINATIC	-150.669	-0.239	-0.015	-0.002	-0.022	0.644
		9:COMBINATIC	-150.305	-0.242	0.076	0.020	0.114	0.646
		10:COMBINAT	-220.279	-0.405	-0.025	-0.003	-0.035	0.980
		11:COMBINATI	-83.514	0.265	-0.007	-0.001	-0.011	0.084
		12:COMBINAT	-82.968	0.261	0.130	0.033	0.193	0.087
		13:COMBINAT	-220.222	-0.405	-0.023	-0.003	-0.033	0.980
		14:COMBINAT	-219.895	-0.408	0.059	0.017	0.089	0.982
		15:COMBINAT	-151.849	-0.070	-0.015	-0.002	-0.021	0.532
		16:COMBINAT	-98.933	-0.492	0.129	0.033	0.192	0.655
647	290	8:COMBINATIC	-470.313	6.158	-0.001	-0.003	0.042	1.533
		9:COMBINATIC	-469.333	6.163	-0.036	0.024	-0.268	1.544
		10:COMBINAT	-685.180	8.376	-0.003	-0.004	0.068	2.027
		11:COMBINATI	-277.839	7.873	-0.000	-0.001	0.021	2.371
		12:COMBINAT	-276.368	7.879	-0.052	0.038	-0.444	2.388
		13:COMBINAT	-685.016	8.376	-0.002	-0.004	0.064	2.027
		14:COMBINAT	-684.134	8.379	-0.033	0.020	-0.215	2.037
		15:COMBINAT	-481.373	8.124	-0.001	-0.003	0.041	2.199
		16:COMBINAT	-294.833	0.372	-0.052	0.038	-0.443	-0.233
	291	8:COMBINATIC	470.313	6.207	0.001	0.003	-0.037	-1.612
		9:COMBINATIC	469.333	6.203	0.036	-0.024	0.384	-1.610
		10:COMBINAT	685.180	8.318	0.003	0.004	-0.060	-1.933
		11:COMBINATI	277.839	8.821	0.000	0.001	-0.019	-3.906
		12:COMBINAT	276.368	8.815	0.052	-0.038	0.613	-3.903
		13:COMBINAT	685.016	8.318	0.002	0.004	-0.056	-1.934
		14:COMBINAT	684.134	8.314	0.033	-0.020	0.323	-1.932
		15:COMBINAT	481.373	8.570	0.001	0.003	-0.037	-2.920
		16:COMBINAT	294.833	-0.372	0.052	-0.038	0.612	1.438
648	288	8:COMBINATIC	-19.675	-0.105	-0.014	-0.002	0.018	-0.341
		9:COMBINATIC	-19.446	-0.102	0.066	0.026	-0.096	-0.338
		10:COMBINAT	-27.398	-0.161	-0.024	-0.003	0.030	-0.496
		11:COMBINATI	-20.962	0.001	-0.007	-0.001	0.009	-0.205
		12:COMBINAT	-20.619	0.005	0.113	0.041	-0.162	-0.201
		13:COMBINAT	-27.362	-0.161	-0.022	-0.003	0.028	-0.495
		14:COMBINAT	-27.156	-0.159	0.050	0.022	-0.075	-0.493
		15:COMBINAT	-24.150	-0.080	-0.014	-0.002	0.018	-0.350
		16:COMBINAT	-4.242	-0.115	0.113	0.041	-0.162	-0.207
	291	8:COMBINATIC	19.568	0.254	0.014	0.002	0.010	-0.017
		9:COMBINATIC	19.339	0.252	-0.066	-0.026	-0.035	-0.015
		10:COMBINAT	27.254	0.363	0.024	0.003	0.017	-0.026
		11:COMBINATI	20.818	0.200	0.007	0.001	0.005	0.007
		12:COMBINAT	20.475	0.197	-0.113	-0.041	-0.063	0.010
		13:COMBINAT	27.218	0.363	0.022	0.003	0.016	-0.026

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		14:COMBINAT	27.012	0.361	-0.050	-0.022	-0.025	-0.025
		15:COMBINAT	24.006	0.282	0.014	0.002	0.010	-0.010
		16:COMBINAT	4.242	0.115	-0.113	-0.041	-0.063	-0.022
649	288	8:COMBINAT	530.601	23.525	-0.039	-0.018	0.121	7.948
		9:COMBINAT	531.824	23.529	0.119	0.043	-0.783	7.961
		10:COMBINAT	772.243	34.954	-0.065	-0.029	0.197	12.032
		11:COMBINAT	320.489	8.942	-0.019	-0.008	0.060	1.398
		12:COMBINAT	322.323	8.949	0.220	0.082	-1.297	1.419
		13:COMBINAT	771.911	34.954	-0.060	-0.027	0.184	12.035
		14:COMBINAT	773.012	34.958	0.083	0.027	-0.630	12.047
		15:COMBINAT	546.089	21.948	-0.038	-0.017	0.118	6.717
		16:COMBINAT	330.013	18.960	0.219	0.082	-1.294	7.776
	289	8:COMBINAT	-522.382	23.112	0.039	0.018	0.009	-7.269
		9:COMBINAT	-523.605	23.108	-0.119	-0.043	0.390	-7.267
		10:COMBINAT	-760.042	34.276	0.065	0.029	0.018	-10.916
		11:COMBINAT	-317.281	9.258	0.019	0.008	0.002	-1.919
		12:COMBINAT	-319.116	9.251	-0.220	-0.082	0.574	-1.916
		13:COMBINAT	-759.710	34.275	0.060	0.027	0.015	-10.918
		14:COMBINAT	-760.811	34.271	-0.083	-0.027	0.358	-10.917
		15:COMBINAT	-538.385	21.767	0.038	0.017	0.007	-6.419
		16:COMBINAT	-323.461	18.219	-0.219	-0.082	0.575	-6.558
650	291	8:COMBINAT	-1.849	0.131	0.002	-0.000	0.004	-0.143
		9:COMBINAT	-2.021	0.130	-0.017	-0.020	-0.026	-0.145
		10:COMBINAT	-1.718	0.182	0.003	-0.000	0.007	-0.214
		11:COMBINAT	-7.741	0.143	0.001	0.000	0.002	-0.048
		12:COMBINAT	-7.998	0.141	-0.027	-0.029	-0.044	-0.050
		13:COMBINAT	-1.748	0.182	0.003	-0.000	0.007	-0.214
		14:COMBINAT	-1.902	0.181	-0.014	-0.018	-0.021	-0.216
		15:COMBINAT	-4.754	0.163	0.002	-0.000	0.004	-0.131
		16:COMBINAT	4.046	0.026	-0.027	-0.029	-0.044	-0.123
	289	8:COMBINAT	2.009	0.018	-0.002	0.000	-0.009	0.277
		9:COMBINAT	2.180	0.019	0.017	0.020	0.066	0.276
		10:COMBINAT	1.933	0.020	-0.003	0.000	-0.014	0.406
		11:COMBINAT	7.956	0.058	-0.001	-0.000	-0.004	0.148
		12:COMBINAT	8.213	0.060	0.027	0.029	0.108	0.146
		13:COMBINAT	1.963	0.020	-0.003	0.000	-0.013	0.406
		14:COMBINAT	2.117	0.021	0.014	0.018	0.054	0.405
		15:COMBINAT	4.970	0.039	-0.002	0.000	-0.009	0.277
		16:COMBINAT	-4.046	-0.026	0.027	0.029	0.107	0.186
651	291	8:COMBINAT	-485.020	6.225	-0.018	-0.007	0.027	1.772
		9:COMBINAT	-483.736	6.224	0.046	0.059	-0.339	1.770
		10:COMBINAT	-706.256	8.365	-0.030	-0.012	0.043	2.174
		11:COMBINAT	-289.495	8.673	-0.008	-0.004	0.014	3.947
		12:COMBINAT	-287.568	8.672	0.088	0.096	-0.535	3.944
		13:COMBINAT	-706.042	8.366	-0.027	-0.011	0.041	2.175
		14:COMBINAT	-704.886	8.365	0.030	0.049	-0.288	2.173
		15:COMBINAT	-497.697	8.520	-0.017	-0.007	0.027	3.061
		16:COMBINAT	-301.098	-0.225	0.087	0.096	-0.534	-1.292
	292	8:COMBINAT	485.020	6.141	0.018	0.007	0.031	-1.636
		9:COMBINAT	483.736	6.142	-0.046	-0.059	0.188	-1.637

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		10:COMBINAT	706.256	8.329	0.030	0.012	0.053	-2.114
		11:COMBINAT	289.495	8.021	0.008	0.004	0.013	-2.889
		12:COMBINAT	287.568	8.022	-0.088	-0.096	0.250	-2.891
		13:COMBINAT	706.042	8.328	0.027	0.011	0.048	-2.113
		14:COMBINAT	704.886	8.329	-0.030	-0.049	0.190	-2.115
		15:COMBINAT	497.697	8.174	0.017	0.007	0.029	-2.501
		16:COMBINAT	301.098	0.225	-0.087	-0.096	0.250	0.564
652	289	8:COMBINAT	54.763	0.313	-0.000	0.003	-0.002	0.130
		9:COMBINAT	54.880	0.315	0.013	0.012	-0.014	0.131
		10:COMBINAT	80.530	0.433	-0.000	0.005	-0.003	0.173
		11:COMBINAT	26.593	0.350	-0.000	0.001	-0.001	0.191
		12:COMBINAT	26.767	0.351	0.020	0.014	-0.019	0.193
		13:COMBINAT	80.551	0.433	-0.000	0.005	-0.003	0.173
		14:COMBINAT	80.656	0.434	0.012	0.012	-0.014	0.174
		15:COMBINAT	53.579	0.392	-0.000	0.003	-0.002	0.182
		16:COMBINAT	39.533	0.063	0.020	0.014	-0.019	-0.011
	292	8:COMBINAT	-54.923	-0.164	0.000	-0.003	0.002	0.436
		9:COMBINAT	-55.039	-0.165	-0.013	-0.012	-0.017	0.437
		10:COMBINAT	-80.745	-0.232	0.000	-0.005	0.004	0.615
		11:COMBINAT	-26.808	-0.148	0.000	-0.001	0.001	0.399
		12:COMBINAT	-26.983	-0.150	-0.020	-0.014	-0.028	0.401
		13:COMBINAT	-80.766	-0.232	0.000	-0.005	0.004	0.615
		14:COMBINAT	-80.871	-0.233	-0.012	-0.012	-0.014	0.616
		15:COMBINAT	-53.794	-0.190	0.000	-0.003	0.002	0.507
		16:COMBINAT	-39.533	-0.063	-0.020	-0.014	-0.028	0.161
653	289	8:COMBINAT	490.591	21.204	-0.037	-0.023	0.002	6.862
		9:COMBINAT	491.613	21.202	0.090	0.072	-0.437	6.860
		10:COMBINAT	714.129	31.528	-0.062	-0.039	-0.001	10.337
		11:COMBINAT	296.123	7.908	-0.018	-0.011	0.003	1.580
		12:COMBINAT	297.656	7.905	0.173	0.132	-0.656	1.577
		13:COMBINAT	713.761	31.528	-0.057	-0.036	0.001	10.339
		14:COMBINAT	714.681	31.526	0.057	0.050	-0.394	10.338
		15:COMBINAT	504.819	19.718	-0.036	-0.022	0.003	5.960
		16:COMBINAT	305.021	17.205	0.172	0.131	-0.656	6.384
	283	8:COMBINAT	-482.357	25.433	0.037	0.023	0.121	-13.818
		9:COMBINAT	-483.379	25.435	-0.090	-0.072	0.142	-13.824
		10:COMBINAT	-701.906	37.702	0.062	0.039	0.204	-20.494
		11:COMBINAT	-292.910	10.291	0.018	0.011	0.056	-5.499
		12:COMBINAT	-294.443	10.295	-0.173	-0.132	0.087	-5.509
		13:COMBINAT	-701.539	37.702	0.057	0.036	0.187	-20.496
		14:COMBINAT	-702.459	37.704	-0.057	-0.050	0.206	-20.502
		15:COMBINAT	-497.102	23.997	0.036	0.022	0.116	-12.998
		16:COMBINAT	-298.458	19.974	-0.172	-0.131	0.091	-10.939
654	292	8:COMBINAT	-60.633	0.181	-0.004	-0.004	0.006	0.181
		9:COMBINAT	-60.734	0.181	0.001	-0.011	-0.023	0.181
		10:COMBINAT	-87.670	0.247	-0.006	-0.007	0.009	0.243
		11:COMBINAT	-40.178	0.224	-0.002	-0.002	0.003	0.248
		12:COMBINAT	-40.330	0.224	0.005	-0.013	-0.040	0.248
		13:COMBINAT	-87.685	0.248	-0.006	-0.006	0.009	0.244
		14:COMBINAT	-87.776	0.247	-0.002	-0.013	-0.018	0.243

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		15:COMBINAT	-63.936	0.236	-0.004	-0.004	0.006	0.246
		16:COMBINAT	-34.796	0.017	0.005	-0.013	-0.040	-0.003
	283	8:COMBINAT	60.845	-0.032	0.004	0.004	0.005	0.119
		9:COMBINAT	60.946	-0.032	-0.001	0.011	0.021	0.119
		10:COMBINAT	87.956	-0.046	0.006	0.007	0.008	0.170
		11:COMBINAT	40.464	-0.023	0.002	0.002	0.002	0.099
		12:COMBINAT	40.616	-0.022	-0.005	0.013	0.027	0.098
		13:COMBINAT	87.971	-0.046	0.006	0.006	0.008	0.170
		14:COMBINAT	88.062	-0.046	0.002	0.013	0.022	0.169
		15:COMBINAT	64.223	-0.034	0.004	0.004	0.005	0.134
		16:COMBINAT	34.796	-0.017	-0.005	0.013	0.027	0.051
655	295	8:COMBINAT	-412.295	2.817	-0.014	0.000	0.058	0.574
		9:COMBINAT	-410.872	2.819	0.059	0.067	0.068	0.578
		10:COMBINAT	-600.207	3.896	-0.024	0.000	0.098	0.807
		11:COMBINAT	-247.745	3.105	-0.007	0.000	0.025	0.512
		12:COMBINAT	-245.610	3.109	0.103	0.101	0.040	0.518
		13:COMBINAT	-599.970	3.899	-0.022	0.000	0.089	0.810
		14:COMBINAT	-598.690	3.901	0.044	0.060	0.098	0.814
		15:COMBINAT	-423.778	3.503	-0.014	0.000	0.054	0.663
		16:COMBINAT	-253.977	0.588	0.103	0.101	0.042	0.231
	292	8:COMBINAT	412.295	3.366	0.014	-0.000	-0.034	-1.019
		9:COMBINAT	410.872	3.364	-0.059	-0.067	-0.163	-1.019
		10:COMBINAT	600.207	4.451	0.024	-0.000	-0.059	-1.256
		11:COMBINAT	247.745	5.242	0.007	-0.000	-0.015	-2.243
		12:COMBINAT	245.610	5.238	-0.103	-0.101	-0.207	-2.243
		13:COMBINAT	599.970	4.448	0.022	-0.000	-0.054	-1.255
		14:COMBINAT	598.690	4.446	-0.044	-0.060	-0.169	-1.255
		15:COMBINAT	423.778	4.844	0.014	-0.000	-0.032	-1.748
		16:COMBINAT	253.977	-0.588	-0.103	-0.101	-0.208	0.722
656	283	8:COMBINAT	-17.117	0.000	0.000	0.000	0.000	0.000
		9:COMBINAT	-17.303	0.000	-0.000	0.000	0.000	0.000
		10:COMBINAT	-24.605	0.000	0.000	0.000	0.000	0.000
		11:COMBINAT	-14.018	0.000	0.000	0.000	0.000	0.000
		12:COMBINAT	-14.297	0.000	-0.000	0.000	0.000	0.000
		13:COMBINAT	-24.453	0.000	0.000	0.000	0.000	0.000
		14:COMBINAT	-24.620	0.000	-0.000	0.000	0.000	0.000
		15:COMBINAT	-19.185	0.000	0.000	0.000	0.000	0.000
		16:COMBINAT	-7.555	0.000	-0.000	0.000	0.000	0.000
	295	8:COMBINAT	16.905	-0.000	-0.000	0.000	0.000	0.000
		9:COMBINAT	17.090	-0.000	0.000	0.000	0.000	0.000
		10:COMBINAT	24.318	-0.000	-0.000	0.000	0.000	0.000
		11:COMBINAT	13.732	-0.000	-0.000	0.000	0.000	0.000
		12:COMBINAT	14.011	-0.000	0.000	0.000	0.000	0.000
		13:COMBINAT	24.167	-0.000	-0.000	0.000	0.000	0.000
		14:COMBINAT	24.334	-0.000	0.000	0.000	0.000	0.000
		15:COMBINAT	18.899	-0.000	-0.000	0.000	0.000	0.000
		16:COMBINAT	7.555	-0.000	0.000	0.000	0.000	0.000
657	286	8:COMBINAT	-60.633	0.181	0.004	0.004	-0.006	0.181
		9:COMBINAT	-60.734	0.181	0.009	-0.002	-0.036	0.180
		10:COMBINAT	-87.670	0.247	0.006	0.007	-0.009	0.243

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		11:COMBINAT	-40.178	0.224	0.002	0.002	-0.003	0.248
		12:COMBINAT	-40.330	0.223	0.010	-0.007	-0.048	0.247
		13:COMBINAT	-87.685	0.248	0.006	0.006	-0.009	0.244
		14:COMBINAT	-87.776	0.247	0.010	0.001	-0.036	0.243
		15:COMBINAT	-63.936	0.236	0.004	0.004	-0.006	0.246
		16:COMBINAT	-34.796	0.017	0.010	-0.007	-0.048	-0.003
	283	8:COMBINAT	60.845	-0.032	-0.004	-0.004	-0.005	0.119
		9:COMBINAT	60.947	-0.032	-0.009	0.002	0.010	0.118
		10:COMBINAT	87.956	-0.046	-0.006	-0.007	-0.008	0.170
		11:COMBINAT	40.464	-0.023	-0.002	-0.002	-0.002	0.099
		12:COMBINAT	40.617	-0.022	-0.010	0.007	0.020	0.098
		13:COMBINAT	87.971	-0.046	-0.006	-0.006	-0.008	0.170
		14:COMBINAT	88.063	-0.046	-0.010	-0.001	0.006	0.169
		15:COMBINAT	64.223	-0.034	-0.004	-0.004	-0.005	0.134
		16:COMBINAT	34.796	-0.017	-0.010	0.007	0.020	0.050
658	286	8:COMBINAT	-412.295	3.366	0.014	0.000	0.034	1.019
		9:COMBINAT	-410.872	3.362	0.092	0.067	-0.081	1.017
		10:COMBINAT	-600.207	4.451	0.024	0.000	0.059	1.256
		11:COMBINAT	-247.745	5.242	0.007	0.000	0.015	2.243
		12:COMBINAT	-245.610	5.236	0.123	0.101	-0.159	2.240
		13:COMBINAT	-599.970	4.448	0.022	0.000	0.053	1.255
		14:COMBINAT	-598.690	4.444	0.092	0.060	-0.051	1.253
		15:COMBINAT	-423.778	4.844	0.014	0.000	0.032	1.748
		16:COMBINAT	-253.977	-0.590	0.123	0.101	-0.158	-0.725
	295	8:COMBINAT	412.295	2.817	-0.014	-0.000	-0.058	-0.574
		9:COMBINAT	410.872	2.821	-0.092	-0.067	-0.068	-0.578
		10:COMBINAT	600.207	3.896	-0.024	-0.000	-0.098	-0.807
		11:COMBINAT	247.745	3.105	-0.007	-0.000	-0.025	-0.512
		12:COMBINAT	245.610	3.111	-0.123	-0.101	-0.040	-0.518
		13:COMBINAT	599.970	3.899	-0.022	-0.000	-0.089	-0.810
		14:COMBINAT	598.690	3.903	-0.092	-0.060	-0.098	-0.814
		15:COMBINAT	423.778	3.503	-0.014	-0.000	-0.054	-0.663
		16:COMBINAT	253.977	0.590	-0.123	-0.101	-0.042	-0.231
659	282	8:COMBINAT	490.591	21.204	0.038	0.023	-0.002	6.862
		9:COMBINAT	491.613	21.204	0.174	0.125	-0.437	6.865
		10:COMBINAT	714.129	31.528	0.062	0.039	-0.000	10.337
		11:COMBINAT	296.123	7.908	0.018	0.011	-0.003	1.580
		12:COMBINAT	297.656	7.907	0.223	0.163	-0.655	1.584
		13:COMBINAT	713.761	31.528	0.057	0.036	-0.002	10.339
		14:COMBINAT	714.681	31.527	0.181	0.127	-0.393	10.342
		15:COMBINAT	504.819	19.718	0.036	0.022	-0.004	5.960
		16:COMBINAT	305.022	17.207	0.224	0.164	-0.655	6.391
	283	8:COMBINAT	-482.357	25.433	-0.038	-0.023	-0.121	-13.818
		9:COMBINAT	-483.380	25.434	-0.174	-0.125	-0.137	-13.824
		10:COMBINAT	-701.907	37.702	-0.062	-0.039	-0.204	-20.494
		11:COMBINAT	-292.910	10.291	-0.018	-0.011	-0.056	-5.499
		12:COMBINAT	-294.443	10.293	-0.223	-0.163	-0.080	-5.508
		13:COMBINAT	-701.539	37.702	-0.057	-0.036	-0.187	-20.496
		14:COMBINAT	-702.459	37.703	-0.181	-0.127	-0.201	-20.501
		15:COMBINAT	-497.102	23.997	-0.036	-0.022	-0.116	-12.998

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		16:COMBINAT	-298.458	19.972	-0.224	-0.164	-0.083	-10.939
660	282	8:COMBINAT	54.763	0.313	0.000	-0.003	0.002	0.130
		9:COMBINAT	54.886	0.315	0.014	0.005	-0.010	0.131
		10:COMBINAT	80.530	0.433	0.001	-0.005	0.003	0.173
		11:COMBINAT	26.593	0.350	0.000	-0.001	0.001	0.191
		12:COMBINAT	26.777	0.352	0.020	0.010	-0.017	0.194
		13:COMBINAT	80.551	0.433	0.000	-0.005	0.003	0.173
		14:COMBINAT	80.661	0.435	0.013	0.002	-0.008	0.174
		15:COMBINAT	53.579	0.392	0.000	-0.003	0.002	0.182
		16:COMBINAT	39.542	0.063	0.020	0.010	-0.017	-0.010
	286	8:COMBINAT	-54.923	-0.164	-0.000	0.003	-0.002	0.436
		9:COMBINAT	-55.046	-0.165	-0.014	-0.005	-0.022	0.437
		10:COMBINAT	-80.745	-0.232	-0.001	0.005	-0.004	0.615
		11:COMBINAT	-26.808	-0.148	-0.000	0.001	-0.001	0.399
		12:COMBINAT	-26.992	-0.150	-0.020	-0.010	-0.031	0.401
		13:COMBINAT	-80.766	-0.232	-0.000	0.005	-0.004	0.615
		14:COMBINAT	-80.877	-0.233	-0.013	-0.002	-0.022	0.616
		15:COMBINAT	-53.794	-0.190	-0.000	0.003	-0.002	0.507
		16:COMBINAT	-39.542	-0.063	-0.020	-0.010	-0.031	0.160
661	285	8:COMBINAT	-485.020	6.225	0.018	0.007	-0.028	1.772
		9:COMBINAT	-483.740	6.227	0.087	0.076	-0.398	1.777
		10:COMBINAT	-706.256	8.365	0.030	0.012	-0.044	2.174
		11:COMBINAT	-289.495	8.673	0.008	0.004	-0.014	3.947
		12:COMBINAT	-287.575	8.676	0.112	0.106	-0.570	3.954
		13:COMBINAT	-706.042	8.366	0.028	0.011	-0.042	2.175
		14:COMBINAT	-704.890	8.367	0.090	0.072	-0.375	2.179
		15:COMBINAT	-497.697	8.520	0.017	0.007	-0.027	3.061
		16:COMBINAT	-301.105	-0.220	0.113	0.106	-0.571	-1.282
	286	8:COMBINAT	485.020	6.141	-0.018	-0.007	-0.030	-1.636
		9:COMBINAT	483.740	6.139	-0.087	-0.076	0.115	-1.635
		10:COMBINAT	706.256	8.329	-0.030	-0.012	-0.053	-2.114
		11:COMBINAT	289.495	8.021	-0.008	-0.004	-0.013	-2.889
		12:COMBINAT	287.575	8.018	-0.112	-0.106	0.206	-2.888
		13:COMBINAT	706.042	8.328	-0.028	-0.011	-0.048	-2.113
		14:COMBINAT	704.890	8.326	-0.090	-0.072	0.084	-2.112
		15:COMBINAT	497.697	8.174	-0.017	-0.007	-0.029	-2.501
		16:COMBINAT	301.105	0.220	-0.113	-0.106	0.205	0.568
662	285	8:COMBINAT	-1.849	0.131	-0.002	0.000	-0.004	-0.143
		9:COMBINAT	-2.013	0.132	-0.021	-0.019	-0.036	-0.143
		10:COMBINAT	-1.718	0.182	-0.003	0.000	-0.007	-0.214
		11:COMBINAT	-7.741	0.143	-0.001	-0.000	-0.002	-0.048
		12:COMBINAT	-7.986	0.144	-0.030	-0.029	-0.049	-0.047
		13:COMBINAT	-1.748	0.182	-0.003	0.000	-0.007	-0.214
		14:COMBINAT	-1.895	0.182	-0.020	-0.017	-0.035	-0.214
		15:COMBINAT	-4.754	0.163	-0.002	-0.000	-0.004	-0.131
		16:COMBINAT	4.057	0.029	-0.030	-0.029	-0.050	-0.120
	282	8:COMBINAT	2.009	0.018	0.002	-0.000	0.009	0.277
		9:COMBINAT	2.172	0.018	0.021	0.019	0.086	0.278
		10:COMBINAT	1.933	0.020	0.003	-0.000	0.015	0.406
		11:COMBINAT	7.956	0.058	0.001	0.000	0.004	0.148

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	8.201	0.058	0.030	0.029	0.120	0.149
		13:COMBINAT	1.963	0.020	0.003	-0.000	0.014	0.406
		14:COMBINAT	2.110	0.019	0.020	0.017	0.083	0.406
		15:COMBINAT	4.970	0.039	0.002	0.000	0.009	0.277
		16:COMBINAT	-4.057	-0.029	0.030	0.029	0.120	0.188
663	281	8:COMBINAT	530.601	23.525	0.040	0.018	-0.123	7.948
		9:COMBINAT	531.823	23.520	0.209	0.083	-1.055	7.936
		10:COMBINAT	772.243	34.954	0.066	0.030	-0.199	12.032
		11:COMBINAT	320.489	8.942	0.019	0.008	-0.061	1.398
		12:COMBINAT	322.321	8.934	0.273	0.106	-1.459	1.381
		13:COMBINAT	771.911	34.954	0.061	0.027	-0.186	12.035
		14:COMBINAT	773.010	34.950	0.213	0.086	-1.025	12.024
		15:COMBINAT	546.089	21.948	0.038	0.017	-0.119	6.717
		16:COMBINAT	330.011	18.945	0.274	0.107	-1.463	7.738
	282	8:COMBINAT	-522.382	23.112	-0.040	-0.018	-0.008	-7.269
		9:COMBINAT	-523.604	23.117	-0.209	-0.083	0.366	-7.274
		10:COMBINAT	-760.042	34.276	-0.066	-0.030	-0.017	-10.916
		11:COMBINAT	-317.281	9.258	-0.019	-0.008	-0.002	-1.919
		12:COMBINAT	-319.113	9.266	-0.273	-0.106	0.560	-1.926
		13:COMBINAT	-759.710	34.275	-0.061	-0.027	-0.014	-10.918
		14:COMBINAT	-760.810	34.280	-0.213	-0.086	0.323	-10.923
		15:COMBINAT	-538.385	21.767	-0.038	-0.017	-0.007	-6.419
		16:COMBINAT	-323.459	18.234	-0.274	-0.107	0.560	-6.569
664	281	8:COMBINAT	-19.675	-0.105	0.015	0.002	-0.019	-0.341
		9:COMBINAT	-19.486	-0.103	0.098	0.030	-0.137	-0.339
		10:COMBINAT	-27.398	-0.161	0.024	0.003	-0.030	-0.496
		11:COMBINAT	-20.962	0.001	0.007	0.001	-0.009	-0.205
		12:COMBINAT	-20.679	0.004	0.133	0.044	-0.187	-0.203
		13:COMBINAT	-27.362	-0.161	0.022	0.003	-0.028	-0.495
		14:COMBINAT	-27.193	-0.159	0.098	0.029	-0.135	-0.494
		15:COMBINAT	-24.150	-0.080	0.014	0.002	-0.018	-0.350
		16:COMBINAT	-4.303	-0.115	0.133	0.044	-0.188	-0.209
	285	8:COMBINAT	19.568	0.254	-0.015	-0.002	-0.010	-0.017
		9:COMBINAT	19.380	0.252	-0.098	-0.030	-0.059	-0.014
		10:COMBINAT	27.254	0.363	-0.024	-0.003	-0.017	-0.026
		11:COMBINAT	20.818	0.200	-0.007	-0.001	-0.005	0.007
		12:COMBINAT	20.535	0.197	-0.133	-0.044	-0.077	0.011
		13:COMBINAT	27.218	0.363	-0.022	-0.003	-0.016	-0.026
		14:COMBINAT	27.049	0.361	-0.098	-0.029	-0.059	-0.024
		15:COMBINAT	24.006	0.282	-0.014	-0.002	-0.010	-0.010
		16:COMBINAT	4.303	0.115	-0.133	-0.044	-0.077	-0.020
665	284	8:COMBINAT	-470.313	6.158	0.001	0.003	-0.043	1.533
		9:COMBINAT	-469.300	6.149	-0.032	0.030	-0.362	1.511
		10:COMBINAT	-685.180	8.376	0.003	0.004	-0.069	2.027
		11:COMBINAT	-277.839	7.873	0.000	0.001	-0.021	2.371
		12:COMBINAT	-276.319	7.859	-0.050	0.042	-0.501	2.338
		13:COMBINAT	-685.016	8.376	0.002	0.004	-0.065	2.027
		14:COMBINAT	-684.104	8.367	-0.028	0.028	-0.353	2.007
		15:COMBINAT	-481.373	8.124	0.001	0.003	-0.041	2.199
		16:COMBINAT	-294.784	0.352	-0.050	0.042	-0.502	-0.283

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	285	8:COMBINATIC	470.313	6.207	-0.001	-0.003	0.038	-1.612
		9:COMBINATIC	469.300	6.217	0.032	-0.030	0.467	-1.621
		10:COMBINAT	685.180	8.318	-0.003	-0.004	0.061	-1.933
		11:COMBINATI	277.839	8.821	-0.000	-0.001	0.020	-3.906
		12:COMBINAT	276.319	8.835	0.050	-0.042	0.662	-3.918
		13:COMBINAT	685.016	8.318	-0.002	-0.004	0.057	-1.934
		14:COMBINAT	684.104	8.327	0.028	-0.028	0.443	-1.941
		15:COMBINAT	481.373	8.570	-0.001	-0.003	0.037	-2.920
		16:COMBINAT	294.784	-0.352	0.050	-0.042	0.664	1.422
666	284	8:COMBINATIC	150.775	0.389	-0.015	-0.002	0.009	-0.019
		9:COMBINATIC	150.477	0.381	-0.111	-0.025	0.058	-0.029
		10:COMBINAT	220.423	0.607	-0.025	-0.003	0.015	0.028
		11:COMBINATI	83.658	-0.063	-0.008	-0.001	0.004	-0.411
		12:COMBINAT	83.211	-0.075	-0.150	-0.035	0.078	-0.426
		13:COMBINAT	220.366	0.607	-0.024	-0.003	0.014	0.028
		14:COMBINAT	220.098	0.600	-0.109	-0.024	0.058	0.020
		15:COMBINAT	151.993	0.272	-0.015	-0.002	0.009	-0.192
		16:COMBINAT	99.031	0.476	-0.151	-0.035	0.078	0.306
	281	8:COMBINATIC	-150.669	-0.239	0.015	0.002	0.022	0.644
		9:COMBINATIC	-150.370	-0.231	0.111	0.025	0.162	0.638
		10:COMBINAT	-220.279	-0.405	0.025	0.003	0.035	0.980
		11:COMBINATI	-83.514	0.265	0.008	0.001	0.011	0.084
		12:COMBINAT	-83.066	0.277	0.150	0.035	0.222	0.075
		13:COMBINAT	-220.222	-0.405	0.024	0.003	0.033	0.980
		14:COMBINAT	-219.953	-0.398	0.109	0.024	0.160	0.974
		15:COMBINAT	-151.849	-0.070	0.015	0.002	0.021	0.532
		16:COMBINAT	-99.031	-0.476	0.151	0.035	0.222	0.642
667	280	8:COMBINATIC	357.820	24.703	-0.035	-0.002	0.010	5.998
		9:COMBINATIC	363.140	24.701	-0.303	-0.041	0.066	5.973
		10:COMBINAT	520.789	36.577	-0.058	-0.002	0.017	8.836
		11:COMBINATI	214.927	10.321	-0.018	-0.001	0.005	2.830
		12:COMBINAT	222.908	10.317	-0.418	-0.061	0.089	2.792
		13:COMBINAT	520.669	36.576	-0.054	-0.002	0.016	8.835
		14:COMBINAT	525.458	36.574	-0.294	-0.038	0.066	8.813
		15:COMBINAT	367.758	23.448	-0.035	-0.002	0.010	5.833
		16:COMBINAT	230.478	19.123	-0.419	-0.061	0.090	4.338
	281	8:COMBINATIC	-348.881	25.964	0.035	0.002	0.117	-8.251
		9:COMBINATIC	-354.202	25.967	0.303	0.041	1.015	-8.235
		10:COMBINAT	-507.520	38.636	0.058	0.002	0.189	-12.516
		11:COMBINATI	-211.439	9.452	0.018	0.001	0.058	-1.277
		12:COMBINAT	-219.419	9.456	0.418	0.061	1.406	-1.253
		13:COMBINAT	-507.400	38.637	0.054	0.002	0.177	-12.519
		14:COMBINAT	-512.189	38.639	0.294	0.038	0.986	-12.504
		15:COMBINAT	-359.380	24.045	0.035	0.002	0.114	-6.899
		16:COMBINAT	-223.352	21.269	0.419	0.061	1.409	-8.172
668	280	8:COMBINATIC	-360.489	-3.599	-0.014	0.006	-0.008	-5.998
		9:COMBINATIC	-359.692	-3.570	-0.143	0.066	-0.042	-5.973
		10:COMBINAT	-524.562	-5.238	-0.023	0.009	-0.014	-8.836
		11:COMBINATI	-217.353	-2.148	-0.007	0.003	-0.004	-2.830
		12:COMBINAT	-216.157	-2.105	-0.200	0.093	-0.054	-2.792

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	-524.439	-5.238	-0.021	0.009	-0.013	-8.835
		14:COMBINAT	-523.722	-5.212	-0.137	0.063	-0.043	-8.813
		15:COMBINAT	-370.855	-3.693	-0.014	0.006	-0.008	-5.833
		16:COMBINAT	-222.275	-2.209	-0.201	0.094	-0.054	-4.338
	284	8:COMBINAT	360.373	4.010	0.014	-0.006	0.036	-1.514
		9:COMBINAT	359.576	3.982	0.143	-0.066	0.324	-1.482
		10:COMBINAT	524.405	5.794	0.023	-0.009	0.059	-2.055
		11:COMBINAT	217.196	2.703	0.007	-0.003	0.018	-1.959
		12:COMBINAT	216.000	2.661	0.200	-0.093	0.450	-1.913
		13:COMBINAT	524.282	5.794	0.021	-0.009	0.055	-2.055
		14:COMBINAT	523.565	5.768	0.137	-0.063	0.314	-2.027
		15:COMBINAT	370.698	4.249	0.014	-0.006	0.035	-2.007
		16:COMBINAT	222.275	2.209	0.201	-0.094	0.451	-0.024

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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608 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.7(5)	0.639	14
		547.28 T	-0.02	-8.99	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 197.44
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	197.443	197.443

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.547
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	42.7	42.7
Compression Capacity	905.9	905.9
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	25.1	25.1
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.974
 Elastic Critical Moment for LTB, Mcr = 1650.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.547	10	-548.0	-5.4	0.0	-9.0	0.0
EC-6.2.9.1	0.358	10	-548.0	-5.4	0.0	-9.0	0.0
EC-6.3.3-661	0.003	7	0.8	0.0	0.1	0.0	0.3
EC-6.3.3-662	0.005	7	0.8	0.0	0.1	0.0	0.3
EC-6.2.6-(Y)	0.021	10	-547.9	5.9	0.0	-2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.639	14	0.0	-547.3	-5.4	-0.1	-9.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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609 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.756	14	
	490.75 C	-0.32	-22.88	1.79	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 357.44
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	357.436	357.436

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.361
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	48.7	72.6
Compression Capacity	1190.2	952.2
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	76.5	48.4
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 1668.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.522	14	497.4	36.6	-0.2	9.0	0.0
EC-6.2.9.1	0.299	14	490.8	-1.0	-0.2	-22.9	-0.3
EC-6.3.3-661	0.692	14	490.8	-1.0	-0.2	-22.9	-0.3
EC-6.3.3-662	0.756	14	490.8	-1.0	-0.2	-22.9	-0.3
EC-6.2.6-(Z)	0.001	12	206.1	10.3	-0.4	2.9	0.1
EC-6.2.6-(Y)	0.079	10	483.0	38.6	0.0	-12.5	-0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.461	14	1.8	490.8	-1.0	-0.2	-22.9	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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610 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.782	14
		230.56 C	0.10	1.02	1.99

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.541
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	7.2	7.2
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.706	10	231.0	0.7	0.0	0.1	0.0
EC-6.2.9.1	0.142	10	230.9	-0.5	0.0	1.0	0.0
EC-6.3.3-661	0.782	14	230.6	-0.5	0.1	1.0	0.1
EC-6.3.3-662	0.780	14	230.6	-0.5	0.1	1.0	0.1
EC-6.2.6-(Z)	0.001	12	87.2	0.0	-0.1	-0.4	0.1
EC-6.2.6-(Y)	0.005	10	231.0	0.7	0.0	0.1	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.425	14	2.0	230.6	-0.5	0.1	1.0	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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611 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.733	14
	715.41 T		-0.29	-4.76	1.62

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.715
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	15.8	15.8
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.716	10	-716.4	8.4	0.0	2.1	0.0
EC-6.3.1.1	0.002	7	1.1	0.0	0.0	0.0	-0.3
EC-6.2.9.1	0.302	10	-716.4	0.1	0.0	-4.8	0.0
EC-6.3.3-661	0.007	7	1.1	0.0	0.0	0.0	0.4
EC-6.3.3-662	0.010	7	1.1	0.0	0.0	0.0	0.4
EC-6.2.6-(Y)	0.030	11	-289.8	8.8	0.0	-3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.733	14	1.6	-715.4	0.1	0.0	-4.8	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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612 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.084	10
		35.90 T	0.02	-0.58	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.084
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.084	10	-35.9	-0.2	0.0	-0.6	0.0
EC-6.2.9.1	0.048	10	-35.9	-0.2	0.0	-0.6	0.0
EC-6.3.3-661	0.003	7	0.2	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.005	7	0.2	0.0	0.1	0.0	-0.1
EC-6.2.6-(Y)	0.004	10	-35.8	0.4	0.0	-0.1	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.022	14	0.0	-35.7	-0.2	0.1	-0.6	-0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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613 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
		PASS	EC-6.3.3-662	0.878	14
		710.78 C	-0.52	-16.99	1.64

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 328.99
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	328.993	328.993

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.523
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1217.0	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	57.2	36.2
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.702	14	716.9	34.9	0.1	12.0	-0.7
EC-6.2.9.1	0.297	14	710.8	0.3	0.1	-17.0	-0.5
EC-6.3.3-661	0.802	14	710.8	0.3	0.1	-17.0	-0.5
EC-6.3.3-662	0.878	14	710.8	0.3	0.1	-17.0	-0.5
EC-6.2.6-(Y)	0.071	10	716.2	34.9	0.0	12.0	0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.584	14	1.6	710.8	0.3	0.1	-17.0	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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614 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.056	14
		4.56 C	0.06	0.43	2.37

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MATERIAL DATA

Grade of steel	=	S 355
Modulus of elasticity	=	205 kN/mm ²
Design Strength (py)	=	355 N/mm ²

SECTION PROPERTIES (units - cm)

Member Length =	236.94
Gross Area =	12.00
Net Area =	12.00

		z-axis	y-axis
Moment of inertia	:	114.000	114.000
Plastic modulus	:	34.000	34.000
Elastic modulus	:	28.500	28.500
Shear Area	:	6.000	6.000
Radius of gyration	:	3.082	3.082
Effective Length	:	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class	:	CLASS 1
Squash Load	:	426.00
Axial force/Squash load	:	0.011
GM0 :	1.00	GM1 : 1.00
		GM2 : 1.25

		z-axis	y-axis
Slenderness ratio (KL/r) :		76.9	76.9
Compression Capacity :		281.7	281.7
Tension Capacity :		426.0	426.0
Moment Capacity :		12.1	12.1
Reduced Moment Capacity :		12.1	12.1
Shear Capacity :		123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment	MB =	12.1
co-efficients C1 _K :	C1 =1.132 K =1.0, Effective Length=	2.369
Elastic Critical Moment for LTB,	Mcr =	265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	4	-5.8	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.023	16	6.4	0.0	0.0	-0.1	0.0
EC-6.2.9.1	0.036	10	4.7	0.0	0.0	0.4	0.0
EC-6.3.3-661	0.050	14	4.6	0.0	0.0	0.4	0.1
EC-6.3.3-662	0.056	14	4.6	0.0	0.0	0.4	0.1
EC-6.2.5	0.024	15	0.1	0.0	0.0	0.3	0.0
EC-6.2.6-(Y)	0.002	10	4.9	0.2	0.0	-0.2	0.0
EC-6.3.2 LTB	0.024	15	0.1	0.0	0.0	0.3	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.004	14	2.4	4.6	0.0	0.0	0.4	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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615 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.780	14
		747.71 T	-0.24	-4.63	1.62

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.747
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	14.0	14.0
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.748	10	-749.0	8.4	0.0	2.2	0.0
EC-6.3.1.1	0.002	7	1.4	0.0	0.1	0.0	-0.4
EC-6.2.9.1	0.332	10	-749.0	0.0	0.0	-4.6	0.0
EC-6.3.3-661	0.006	7	1.4	0.0	0.1	0.0	-0.4
EC-6.3.3-662	0.008	7	1.4	0.0	0.1	0.0	-0.4
EC-6.2.6-(Y)	0.030	11	-307.4	8.7	0.0	4.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.780	14	1.6	-747.7	0.0	0.0	-4.6	-0.2	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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616 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.315	14
		76.13 C	-0.01	0.57	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.179
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.270	14	76.1	0.2	0.0	-0.5	0.0
EC-6.2.9.1	0.047	14	76.1	-0.2	0.0	0.6	0.0
EC-6.3.3-661	0.305	14	76.1	-0.2	0.0	0.6	0.0
EC-6.3.3-662	0.315	14	76.1	-0.2	0.0	0.6	0.0
EC-6.2.6-(Y)	0.003	10	75.8	0.4	0.0	0.1	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.011	16	2.4	37.9	0.0	0.0	0.1	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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617 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.835	14	
	654.29 C	0.13	-20.28	3.29	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 329.01
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	329.010	329.010

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.481
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1216.9	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	62.1	39.3
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.653	14	666.5	31.6	0.1	10.4	-0.4
EC-6.2.9.1	0.327	14	654.3	37.6	-0.1	-20.3	0.1
EC-6.3.3-661	0.708	14	654.3	37.6	-0.1	-20.3	0.1
EC-6.3.3-662	0.835	14	654.3	37.6	-0.1	-20.3	0.1
EC-6.2.6-(Y)	0.077	10	653.8	37.6	0.0	-20.3	0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.581	14	3.3	654.3	37.6	-0.1	-20.3	0.1	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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618 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.197	14
		83.81 T	0.02	0.20	2.81

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 281.41
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	281.407	281.407

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.197
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	91.3	91.3
Compression Capacity	227.1	227.1
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.814
 Elastic Critical Moment for LTB, Mcr = 224.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.197	14	-83.8	-0.1	0.0	0.2	0.0
EC-6.2.9.1	0.022	10	-83.4	0.3	0.0	0.3	0.0
EC-6.2.6-(Y)	0.002	10	-83.4	0.3	0.0	0.3	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.014	12	0.0	-38.1	0.2	0.0	0.3	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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619 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.3 (T)	0.648	10
		648.62 T	0.06	0.81	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 162.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	162.000	162.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.648
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	35.0	35.0
Compression Capacity	937.7	937.7
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	19.5	19.5
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.620
 Elastic Critical Moment for LTB, Mcr = 1993.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.648	10	-648.6	3.9	0.0	0.8	0.1
EC-6.3.1.1	0.002	7	1.6	0.0	0.1	0.0	0.0
EC-6.2.9.1	0.062	10	-648.6	4.4	0.0	-1.2	0.0
EC-6.3.3-661	0.003	7	1.6	0.0	-0.1	0.0	-0.1
EC-6.3.3-662	0.003	7	1.6	0.0	-0.1	0.0	-0.1
EC-6.2.6-(Y)	0.018	11	-268.6	5.2	0.0	-2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.469	14	1.6	-647.2	4.4	-0.1	-1.2	-0.1	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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620 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.022	10
		9.30 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 230.10
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	230.100	230.100

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.022
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	74.7	74.7
Compression Capacity	290.3	290.3
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.301
 Elastic Critical Moment for LTB, Mcr = 273.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.022	10	-9.3	0.0	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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621 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.197	14
		83.81 T	0.01	0.20	2.81

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 281.41
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	281.407	281.407

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.197
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	91.3	91.3
Compression Capacity	227.1	227.1
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.814
 Elastic Critical Moment for LTB, Mcr = 224.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.197	14	-83.8	-0.1	0.0	0.2	0.0
EC-6.2.9.1	0.022	10	-83.4	0.3	0.0	0.3	0.0
EC-6.2.6-(Y)	0.002	10	-83.4	0.3	0.0	0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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622 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
	PASS	EC-6.2.3 (T)	0.648	10	
	648.62 T	0.04	1.21	0.00	

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 162.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	162.000	162.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.648
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	35.0	35.0
Compression Capacity	937.7	937.7
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	19.5	19.5
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.620
 Elastic Critical Moment for LTB, Mcr = 1993.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.648	10	-648.6	4.4	0.0	1.2	0.0
EC-6.3.1.1	0.002	7	1.6	0.0	0.1	0.0	-0.1
EC-6.2.9.1	0.062	10	-648.6	4.4	0.0	1.2	0.0
EC-6.3.3-661	0.003	7	1.6	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.003	7	1.6	0.0	0.1	0.0	-0.1
EC-6.2.6-(Y)	0.018	11	-268.6	5.2	0.0	2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.466	14	0.0	-647.2	4.4	0.1	1.2	-0.1	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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623 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.834	10	
	653.83 C	-0.13	-20.28	3.29	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 329.01
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	329.010	329.010

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.481
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1216.9	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	62.2	39.3
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.653	14	666.5	31.6	0.2	10.4	-0.4
EC-6.2.9.1	0.327	14	654.3	37.6	-0.2	-20.3	-0.1
EC-6.3.3-661	0.707	10	653.8	37.6	0.0	-20.3	-0.1
EC-6.3.3-662	0.834	10	653.8	37.6	0.0	-20.3	-0.1
EC-6.2.6-(Y)	0.077	10	653.8	37.6	0.0	-20.3	-0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.581	14	3.3	654.3	37.6	-0.2	-20.3	-0.1	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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624 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.315	14
		76.13 C	-0.02	0.57	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.179
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.270	14	76.1	0.2	0.0	-0.5	0.0
EC-6.2.9.1	0.047	14	76.1	-0.2	0.0	0.6	0.0
EC-6.3.3-661	0.305	14	76.1	-0.2	0.0	0.6	0.0
EC-6.3.3-662	0.315	14	76.1	-0.2	0.0	0.6	0.0
EC-6.2.6-(Y)	0.003	10	75.8	0.4	0.0	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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625 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.7(5)	0.779	14
		747.71 T	-0.22	-4.63	1.62

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.747
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	14.0	14.0
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
=====					

CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.748	10	-749.0	8.4	0.0	2.2	0.0
EC-6.3.1.1	0.002	7	1.4	0.0	0.1	0.0	-0.4
EC-6.2.9.1	0.332	10	-749.0	0.0	0.0	-4.6	0.0
EC-6.3.3-661	0.006	7	1.4	0.0	0.1	0.0	-0.4
EC-6.3.3-662	0.008	7	1.4	0.0	0.1	0.0	-0.4
EC-6.2.6-(Y)	0.030	11	-307.4	8.7	0.0	4.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.779	14	1.6	-747.7	0.0	0.1	-4.6	-0.2	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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626 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.057	14
		4.56 C	0.07	0.43	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.011
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	4	-5.8	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.023	16	6.4	0.0	0.0	-0.1	0.0
EC-6.2.9.1	0.036	10	4.7	0.0	0.0	0.4	0.0
EC-6.3.3-661	0.051	14	4.6	0.0	0.0	0.4	0.1
EC-6.3.3-662	0.057	14	4.6	0.0	0.0	0.4	0.1
EC-6.2.5	0.024	15	0.1	0.0	0.0	0.3	0.0
EC-6.2.6-(Y)	0.002	10	4.9	0.2	0.0	-0.2	0.0
EC-6.3.2 LTB	0.024	15	0.1	0.0	0.0	0.3	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.004	14	2.4	4.6	0.0	0.0	0.4	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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627 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
		PASS	EC-6.3.3-662	0.879	14
		710.78 C	-0.61	-16.99	1.64

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 328.99
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	328.993	328.993

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.523
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1217.0	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	57.2	36.2
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.702	14	716.9	34.9	0.2	12.0	-0.9
EC-6.2.9.1	0.297	14	710.8	0.3	0.2	-17.0	-0.6
EC-6.3.3-661	0.802	14	710.8	0.3	0.2	-17.0	-0.6
EC-6.3.3-662	0.879	14	710.8	0.3	0.2	-17.0	-0.6
EC-6.2.6-(Y)	0.071	10	716.2	34.9	0.0	12.0	-0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.586	14	1.6	710.8	0.3	0.2	-17.0	-0.6	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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628 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.084	10
		35.90 T	-0.02	-0.58	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.084
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.084	10	-35.9	-0.2	0.0	-0.6	0.0
EC-6.2.9.1	0.048	10	-35.9	-0.2	0.0	-0.6	0.0
EC-6.3.3-661	0.003	7	0.2	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.005	7	0.2	0.0	0.1	0.0	-0.1
EC-6.2.6-(Z)	0.001	12	-25.0	0.0	0.1	-0.2	-0.2
EC-6.2.6-(Y)	0.004	10	-35.8	0.4	0.0	-0.1	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.023	14	0.0	-35.7	-0.2	0.1	-0.6	-0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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629 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.736	14
	715.41 T		-0.36	-4.76	1.62

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.715
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	15.8	15.8
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.716	10	-716.4	8.4	0.0	2.1	0.0
EC-6.3.1.1	0.002	7	1.1	0.0	0.0	0.0	-0.3
EC-6.2.9.1	0.302	10	-716.4	0.1	0.0	-4.8	0.0
EC-6.3.3-661	0.007	7	1.1	0.0	0.0	0.0	0.4
EC-6.3.3-662	0.010	7	1.1	0.0	0.0	0.0	0.4
EC-6.2.6-(Y)	0.030	11	-289.8	8.8	0.0	-3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.736	14	1.6	-715.4	0.1	0.0	-4.8	-0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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630 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.783	14
		230.56 C	0.14	1.02	1.99

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.541
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	7.2	7.2
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.706	10	231.0	0.7	0.0	0.1	0.0
EC-6.2.9.1	0.142	10	230.9	-0.5	0.0	1.0	0.0
EC-6.3.3-661	0.783	14	230.6	-0.5	0.1	1.0	0.1
EC-6.3.3-662	0.782	14	230.6	-0.5	0.1	1.0	0.1
EC-6.2.6-(Z)	0.001	12	87.2	0.0	-0.1	-0.4	0.1
EC-6.2.6-(Y)	0.005	10	231.0	0.7	0.0	0.1	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.430	14	2.0	230.6	-0.5	0.1	1.0	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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631 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.757	14	
	490.75 C	-0.41	-22.88	1.79	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 357.44
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	357.436	357.436

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.361
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	48.7	72.6
Compression Capacity	1190.2	952.2
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	76.5	48.4
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 1668.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.522	14	497.4	36.6	-0.3	9.0	0.1
EC-6.2.9.1	0.299	14	490.8	-1.0	-0.3	-22.9	-0.4
EC-6.3.3-661	0.693	14	490.8	-1.0	-0.3	-22.9	-0.4
EC-6.3.3-662	0.757	14	490.8	-1.0	-0.3	-22.9	-0.4
EC-6.2.6-(Z)	0.001	12	206.1	10.3	-0.4	2.9	0.1
EC-6.2.6-(Y)	0.079	10	483.0	38.6	0.0	-12.5	0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.463	14	1.8	490.8	-1.0	-0.3	-22.9	-0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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632 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.640	14
	547.28 T		-0.04	-8.99	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 197.44
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	197.443	197.443

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.547
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	42.7	42.7
Compression Capacity	905.9	905.9
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	25.1	25.1
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.974
 Elastic Critical Moment for LTB, Mcr = 1650.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.547	10	-548.0	-5.4	0.0	-9.0	0.0
EC-6.2.9.1	0.358	10	-548.0	-5.4	0.0	-9.0	0.0
EC-6.3.3-661	0.003	7	0.8	0.0	0.1	0.0	0.3
EC-6.3.3-662	0.005	7	0.8	0.0	0.1	0.0	0.3
EC-6.2.6-(Y)	0.021	10	-547.9	5.9	0.0	-2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.640	14	0.0	-547.3	-5.4	-0.1	-9.0	0.0	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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634 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.068	12
		4.45 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.007
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.012	13	-7.8	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.035	7	5.0	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-7.5	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.067	12	4.5	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.068	12	4.5	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-7.5	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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635 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.520	10
		49.23 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.074
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.038	7	-25.4	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.456	10	49.3	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	49.2	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.520	10	49.2	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.502	10	49.2	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	49.3	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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636 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.132	12
		13.49 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.020
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	15	-1.3	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.095	16	13.6	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-0.6	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.132	12	13.5	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.131	12	13.5	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-0.6	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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637 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.316	10
		69.40 C	0.00	-1.06	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.086
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	128.1	128.1
Compression Capacity	247.3	247.3
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 460.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.001	6	-1.0	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.281	10	69.4	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.031	10	69.4	0.0	0.0	-1.1	0.0
EC-6.3.3-661	0.316	10	69.4	0.0	0.0	-1.1	0.0
EC-6.3.3-662	0.310	10	69.4	0.0	0.0	-1.1	0.0
EC-6.2.6-(Y)	0.003	10	69.4	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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638 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.038	13
		25.53 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.038
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.038	13	-25.5	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-25.0	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-25.0	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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639 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.061	10
		40.17 T	0.00	0.00	6.43

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 642.61
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	642.609	642.609

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.061
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	166.4	166.4
Compression Capacity	126.3	126.3
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.426
 Elastic Critical Moment for LTB, Mcr = 242.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.061	10	-40.2	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.040	10	-39.9	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-39.7	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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640 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		0.46 T	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.001
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.021	12	-14.1	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-0.5	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-0.5	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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641 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.742	14
		72.28 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.109
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.670	14	72.3	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	49.3	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.742	14	72.3	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.714	14	72.3	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	49.3	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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642 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		7.50 T	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.011
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.018	14	-12.0	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-7.5	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-7.5	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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644 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.7(5)	0.596	14
		523.80 T	-0.02	-8.84	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 197.44
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	197.443	197.443

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.523
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	42.7	42.7
Compression Capacity	905.9	905.9
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	26.4	26.4
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.974
 Elastic Critical Moment for LTB, Mcr = 1650.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.524	10	-524.6	-5.2	0.0	-8.8	0.0
EC-6.2.9.1	0.335	10	-524.6	-5.2	0.0	-8.8	0.0
EC-6.3.3-661	0.004	7	0.8	0.0	0.1	0.0	0.3
EC-6.3.3-662	0.006	7	0.8	0.0	0.1	0.0	0.3
EC-6.2.6-(Y)	0.020	10	-524.4	5.8	0.0	-2.1	-0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.596	14	0.0	-523.8	-5.2	-0.1	-8.8	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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645 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.777	10	
	514.16 C	0.09	-22.93	1.79	

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 357.44
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	357.436	357.436

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.378
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	48.7	72.6
Compression Capacity	1190.2	952.2
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	74.5	47.1
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 1668.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	7	-2.6	0.0	-0.3	0.0	0.1
EC-6.3.1.1	0.547	10	520.8	36.6	0.1	8.8	0.0
EC-6.2.9.1	0.308	10	514.2	-1.0	0.1	-22.9	0.1
EC-6.3.3-661	0.713	10	514.2	-1.0	0.1	-22.9	0.1
EC-6.3.3-662	0.777	10	514.2	-1.0	0.1	-22.9	0.1
EC-6.2.6-(Z)	0.001	12	211.2	10.3	-0.4	2.8	0.1
EC-6.2.6-(Y)	0.079	10	507.5	38.6	-0.1	-12.5	-0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.482	14	1.8	511.8	-1.0	-0.2	-22.9	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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646 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.748	14
		219.89 C	0.09	0.98	1.99

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.516
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	7.6	7.6
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.001	7	-0.4	0.0	-0.1	0.0	0.0
EC-6.3.1.1	0.673	10	220.4	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.129	10	220.3	-0.4	0.0	1.0	0.0
EC-6.3.3-661	0.748	14	219.9	-0.4	0.1	1.0	0.1
EC-6.3.3-662	0.746	14	219.9	-0.4	0.1	1.0	0.1
EC-6.2.6-(Z)	0.001	12	83.1	-0.1	-0.1	-0.4	0.1
EC-6.2.6-(Y)	0.005	10	220.4	0.6	0.0	0.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.387	14	2.0	219.9	-0.4	0.1	1.0	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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647 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.3 (T)	0.684	10
		685.18 T	0.07	2.03	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.684
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	17.5	17.5
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.684	10	-685.2	8.4	0.0	2.0	0.1
EC-6.3.1.1	0.002	7	1.2	0.0	0.0	0.0	-0.3
EC-6.2.9.1	0.273	10	-685.2	0.0	0.0	-4.8	0.1
EC-6.3.3-661	0.007	7	1.2	0.0	0.0	0.0	0.4
EC-6.3.3-662	0.011	7	1.2	0.0	0.0	0.0	0.4
EC-6.2.6-(Y)	0.031	11	-277.8	8.8	0.0	-3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.680	14	1.6	-684.1	0.0	0.0	-4.8	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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648 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.064	10
		27.40 T	0.03	-0.50	0.00

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MATERIAL DATA

Grade of steel	=	S 355
Modulus of elasticity	=	205 kN/mm2
Design Strength (py)	=	355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length =	199.13
Gross Area =	12.00
Net Area =	12.00

		z-axis	y-axis
Moment of inertia	:	114.000	114.000
Plastic modulus	:	34.000	34.000
Elastic modulus	:	28.500	28.500
Shear Area	:	6.000	6.000
Radius of gyration	:	3.082	3.082
Effective Length	:	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class	:	CLASS 1
Squash Load	:	426.00
Axial force/Squash load	:	0.064
GM0 :	1.00	GM1 : 1.00
		GM2 : 1.25

		z-axis	y-axis
Slenderness ratio (KL/r) :		64.6	64.6
Compression Capacity :		327.4	327.4
Tension Capacity :		426.0	426.0
Moment Capacity :		12.1	12.1
Reduced Moment Capacity :		12.1	12.1
Shear Capacity :		123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment	MB =	12.1
co-efficients C1 _K :	C1 =1.132 K =1.0, Effective Length=	1.991
Elastic Critical Moment for LTB,	Mcr =	314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.064	10	-27.4	-0.2	0.0	-0.5	0.0
EC-6.2.9.1	0.041	10	-27.4	-0.2	0.0	-0.5	0.0
EC-6.3.3-661	0.003	7	0.3	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.005	7	0.3	0.0	0.1	0.0	-0.1
EC-6.2.6-(Y)	0.003	10	-27.3	0.4	0.0	0.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.014	14	0.0	-27.2	-0.2	0.0	-0.5	-0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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649 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.932	14	
	766.91 C	-0.49	-16.99	1.64	

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 328.99
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	328.993	328.993

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.564
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1217.0	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	52.2	33.0
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.757	14	773.0	35.0	0.1	12.0	-0.6
EC-6.2.9.1	0.325	14	766.9	0.3	0.1	-17.0	-0.5
EC-6.3.3-661	0.851	14	766.9	0.3	0.1	-17.0	-0.5
EC-6.3.3-662	0.932	14	766.9	0.3	0.1	-17.0	-0.5
EC-6.2.6-(Y)	0.071	10	772.2	35.0	-0.1	12.0	0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.648	14	1.6	766.9	0.3	0.1	-17.0	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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650 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.037	16
		4.05 C	0.11	0.19	2.37

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.009
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.019	12	-8.2	0.0	0.0	-0.2	-0.1
EC-6.3.1.1	0.014	16	4.0	0.0	0.0	-0.1	0.0
EC-6.2.9.1	0.034	10	-1.9	0.0	0.0	-0.4	0.0
EC-6.3.3-661	0.032	16	4.0	0.0	0.0	0.2	0.1
EC-6.3.3-662	0.037	16	4.0	0.0	0.0	0.2	0.1
EC-6.2.6-(Y)	0.001	10	-1.7	0.2	0.0	-0.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.003	14	2.4	-2.1	0.0	0.0	0.4	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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651 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
	PASS	EC-6.2.7(5)		0.706	14
	704.89 T	-0.24		-4.62	1.62

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.704
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	16.4	16.4
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.705	10	-706.3	8.4	0.0	2.2	0.0
EC-6.3.1.1	0.002	7	1.5	0.0	0.1	0.0	-0.4
EC-6.2.9.1	0.283	10	-706.3	0.0	0.0	-4.6	0.0
EC-6.3.3-661	0.006	7	1.5	0.0	0.1	0.0	-0.4
EC-6.3.3-662	0.009	7	1.5	0.0	0.1	0.0	-0.4
EC-6.2.6-(Y)	0.030	11	-289.5	8.7	0.0	3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.706	14	1.6	-704.9	0.0	0.0	-4.6	-0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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652 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.334	14
		80.87 C	-0.01	0.62	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.190
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.287	14	80.9	0.2	0.0	-0.6	0.0
EC-6.2.9.1	0.051	14	80.9	-0.2	0.0	0.6	0.0
EC-6.3.3-661	0.323	14	80.9	-0.2	0.0	0.6	0.0
EC-6.3.3-662	0.334	14	80.9	-0.2	0.0	0.6	0.0
EC-6.2.6-(Y)	0.004	10	80.5	0.4	0.0	0.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.064	14	2.4	80.9	-0.2	0.0	0.6	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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653 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.882	14	
	702.46 C	0.21	-20.50	3.29	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 329.01
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	329.010	329.010

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.517
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1216.9	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	57.9	36.6
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.700	14	714.7	31.5	0.1	10.3	-0.4
EC-6.2.9.1	0.354	14	702.5	37.7	-0.1	-20.5	0.2
EC-6.3.3-661	0.750	14	702.5	37.7	-0.1	-20.5	0.2
EC-6.3.3-662	0.882	14	702.5	37.7	-0.1	-20.5	0.2
EC-6.2.6-(Y)	0.077	10	701.9	37.7	0.1	-20.5	0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.643	14	3.3	702.5	37.7	-0.1	-20.5	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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654 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.207	14
		88.06 T	0.02	0.17	2.81

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 281.41
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	281.407	281.407

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.207
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	91.3	91.3
Compression Capacity	227.1	227.1
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.814
 Elastic Critical Moment for LTB, Mcr = 224.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.207	14	-88.1	0.0	0.0	0.2	0.0
EC-6.2.9.1	0.021	11	-40.2	0.2	0.0	0.2	0.0
EC-6.2.6-(Y)	0.002	10	-87.7	0.2	0.0	0.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.054	14	0.0	-87.8	0.2	0.0	0.2	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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655 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
	PASS	EC-6.2.3 (T)	0.600	10	
	600.21 T	0.10	0.81	0.00	

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 162.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	162.000	162.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.600
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	35.0	35.0
Compression Capacity	937.7	937.7
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	22.2	22.2
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.620
 Elastic Critical Moment for LTB, Mcr = 1993.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.600	10	-600.2	3.9	0.0	0.8	0.1
EC-6.3.1.1	0.002	7	1.7	0.0	0.1	0.0	0.0
EC-6.2.9.1	0.057	10	-600.2	4.5	0.0	-1.3	-0.1
EC-6.3.3-661	0.003	7	1.7	0.0	-0.1	0.0	-0.1
EC-6.3.3-662	0.004	7	1.7	0.0	-0.1	0.0	-0.1
EC-6.2.6-(Y)	0.018	11	-247.7	5.2	0.0	-2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.407	14	1.6	-598.7	4.4	0.0	-1.3	-0.2	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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656 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.058	10
		24.60 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 230.10
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	230.100	230.100

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.058
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	74.7	74.7
Compression Capacity	290.3	290.3
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.301
 Elastic Critical Moment for LTB, Mcr = 273.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.058	10	-24.6	0.0	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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657 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.207	14
		88.06 T	0.01	0.17	2.81

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 281.41
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	281.407	281.407

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.207
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	91.3	91.3
Compression Capacity	227.1	227.1
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 2.814
 Elastic Critical Moment for LTB, Mcr = 224.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.207	14	-88.1	0.0	0.0	0.2	0.0
EC-6.2.9.1	0.021	11	-40.2	0.2	0.0	0.2	0.0
EC-6.2.6-(Y)	0.002	10	-87.7	0.2	0.0	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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658 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.3 (T)	0.600	10
		600.21 T	0.06	1.26	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 162.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	162.000	162.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.600
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	35.0	35.0
Compression Capacity	937.7	937.7
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	22.2	22.2
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.620
 Elastic Critical Moment for LTB, Mcr = 1993.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.600	10	-600.2	4.5	0.0	1.3	0.1
EC-6.3.1.1	0.002	7	1.7	0.0	0.1	0.0	-0.1
EC-6.2.9.1	0.057	10	-600.2	4.5	0.0	1.3	0.1
EC-6.3.3-661	0.003	7	1.7	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.004	7	1.7	0.0	0.1	0.0	-0.1
EC-6.2.6-(Y)	0.018	11	-247.7	5.2	0.0	2.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.403	14	0.0	-598.7	4.4	0.1	1.3	-0.1	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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659 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.881	10	
	701.91 C	-0.20	-20.49	3.29	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 329.01
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	329.010	329.010

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.516
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1216.9	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	57.9	36.7
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.700	14	714.7	31.5	0.2	10.3	-0.4
EC-6.2.9.1	0.354	14	702.5	37.7	-0.2	-20.5	-0.2
EC-6.3.3-661	0.749	10	701.9	37.7	-0.1	-20.5	-0.2
EC-6.3.3-662	0.881	10	701.9	37.7	-0.1	-20.5	-0.2
EC-6.2.6-(Y)	0.077	10	701.9	37.7	-0.1	-20.5	-0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.643	14	3.3	702.5	37.7	-0.2	-20.5	-0.2	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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660 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.334	14
		80.88 C	-0.02	0.62	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.190
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.287	14	80.9	0.2	0.0	-0.6	0.0
EC-6.2.9.1	0.051	14	80.9	-0.2	0.0	0.6	0.0
EC-6.3.3-661	0.323	14	80.9	-0.2	0.0	0.6	0.0
EC-6.3.3-662	0.334	14	80.9	-0.2	0.0	0.6	0.0
EC-6.2.6-(Y)	0.004	10	80.5	0.4	0.0	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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661 ST	120X6.3SHS	(EUROPEAN SECTIONS)			
	PASS	EC-6.2.3 (T)		0.705	10
	706.26 T	-0.04		2.17	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.705
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	16.3	16.3
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.705	10	-706.3	8.4	0.0	2.2	0.0
EC-6.3.1.1	0.002	7	1.5	0.0	0.1	0.0	-0.4
EC-6.2.9.1	0.283	10	-706.3	0.0	0.0	-4.6	0.0
EC-6.3.3-661	0.006	7	1.5	0.0	0.1	0.0	-0.4
EC-6.3.3-662	0.009	7	1.5	0.0	0.1	0.0	-0.4
EC-6.2.6-(Y)	0.030	11	-289.5	8.7	0.0	3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.705	14	1.6	-704.9	0.0	0.1	-4.6	-0.2	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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662 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.038	16
		4.06 C	0.12	0.19	2.37

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 236.94
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	236.935	236.935

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.010
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	76.9	76.9
Compression Capacity	281.7	281.7
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 2.369
 Elastic Critical Moment for LTB, Mcr = 265.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.019	12	-8.2	0.0	0.0	-0.2	-0.1
EC-6.3.1.1	0.014	16	4.1	0.0	0.0	-0.1	0.0
EC-6.2.9.1	0.034	10	-1.9	0.0	0.0	-0.4	0.0
EC-6.3.3-661	0.032	16	4.1	0.0	0.0	0.2	0.1
EC-6.3.3-662	0.038	16	4.1	0.0	0.0	0.2	0.1
EC-6.2.6-(Y)	0.001	10	-1.7	0.2	0.0	-0.2	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.003	14	2.4	-2.1	0.0	0.0	0.4	0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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663 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
	PASS	EC-6.3.3-662	0.934	14	
	766.91 C	-0.67	-17.00	1.64	

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 328.99
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	328.993	328.993

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.564
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	44.8	66.8
Compression Capacity	1217.0	1020.5
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	52.2	33.0
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.290
 Elastic Critical Moment for LTB, Mcr = 1807.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.757	14	773.0	34.9	0.2	12.0	-1.0
EC-6.2.9.1	0.326	14	766.9	0.3	0.2	-17.0	-0.7
EC-6.3.3-661	0.852	14	766.9	0.3	0.2	-17.0	-0.7
EC-6.3.3-662	0.934	14	766.9	0.3	0.2	-17.0	-0.7
EC-6.2.6-(Y)	0.071	10	772.2	35.0	0.1	12.0	-0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.653	14	1.6	766.9	0.3	0.2	-17.0	-0.7	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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664 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.064	10
		27.40 T	-0.03	-0.50	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.064
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	12.1	12.1
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.064	10	-27.4	-0.2	0.0	-0.5	0.0
EC-6.2.9.1	0.041	10	-27.4	-0.2	0.0	-0.5	0.0
EC-6.3.3-661	0.003	7	0.2	0.0	0.1	0.0	-0.1
EC-6.3.3-662	0.005	7	0.2	0.0	0.1	0.0	-0.1
EC-6.2.6-(Z)	0.001	12	-20.7	0.0	0.1	-0.2	-0.2
EC-6.2.6-(Y)	0.003	10	-27.3	0.4	0.0	0.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.016	14	0.0	-27.2	-0.2	0.1	-0.5	-0.1	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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665 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.687	14
	684.10 T		-0.40	-4.79	1.62

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 324.00
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	324.000	324.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.683
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	70.1	70.1
Compression Capacity	723.4	723.4
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	17.6	17.6
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.240
 Elastic Critical Moment for LTB, Mcr = 1023.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.684	10	-685.2	8.4	0.0	2.0	-0.1
EC-6.3.1.1	0.002	7	1.2	0.0	0.0	0.0	-0.3
EC-6.2.9.1	0.273	10	-685.2	0.0	0.0	-4.8	-0.1
EC-6.3.3-661	0.007	7	1.2	0.0	0.0	0.0	0.4
EC-6.3.3-662	0.011	7	1.2	0.0	0.0	0.0	0.4
EC-6.2.6-(Y)	0.031	11	-277.8	8.8	0.0	-3.9	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.687	14	1.6	-684.1	0.0	0.0	-4.8	-0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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666 ST	80X4SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.750	14
		219.95 C	0.16	0.97	1.99

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 199.13
 Gross Area = 12.00 Net Area = 12.00

	z-axis	y-axis
Moment of inertia	114.000	114.000
Plastic modulus	34.000	34.000
Elastic modulus	28.500	28.500
Shear Area	6.000	6.000
Radius of gyration	3.082	3.082
Effective Length	199.132	199.132

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 426.00
 Axial force/Squash load : 0.516
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	64.6	64.6
Compression Capacity	327.4	327.4
Tension Capacity	426.0	426.0
Moment Capacity	12.1	12.1
Reduced Moment Capacity	7.6	7.6
Shear Capacity	123.0	123.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 12.1
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.991
 Elastic Critical Moment for LTB, Mcr = 314.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.673	10	220.4	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.129	10	220.3	-0.4	0.0	1.0	0.0
EC-6.3.3-661	0.750	14	220.0	-0.4	0.1	1.0	0.2
EC-6.3.3-662	0.749	14	220.0	-0.4	0.1	1.0	0.2
EC-6.2.6-(Z)	0.001	12	83.2	-0.1	-0.2	-0.4	0.1
EC-6.2.6-(Y)	0.005	10	220.4	0.6	0.0	0.0	0.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.395	14	2.0	220.0	-0.4	0.1	1.0	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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667 ST	200X120X6.3RHS			(EUROPEAN SECTIONS)	
		PASS	EC-6.3.3-662	0.787	14
		518.82 C	-0.46	-22.95	1.79

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 357.44
 Gross Area = 38.30 Net Area = 38.30

	z-axis	y-axis
Moment of inertia	2065.000	929.000
Plastic modulus	253.000	177.000
Elastic modulus	206.500	154.833
Shear Area	14.363	23.938
Radius of gyration	7.343	4.925
Effective Length	357.436	357.436

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 1359.65
 Axial force/Squash load : 0.382
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	48.7	72.6
Compression Capacity	1190.2	952.2
Tension Capacity	1359.7	1359.7
Moment Capacity	89.8	62.8
Reduced Moment Capacity	74.1	46.9
Shear Capacity	294.4	490.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 89.8
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 1668.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.552	14	525.5	36.6	-0.3	8.8	0.1
EC-6.2.9.1	0.310	14	518.8	-1.0	-0.3	-22.9	-0.5
EC-6.3.3-661	0.720	14	518.8	-1.0	-0.3	-22.9	-0.5
EC-6.3.3-662	0.787	14	518.8	-1.0	-0.3	-22.9	-0.5
EC-6.2.6-(Z)	0.001	12	222.9	10.3	-0.4	2.8	0.1
EC-6.2.6-(Y)	0.079	10	507.5	38.6	0.1	-12.5	0.2

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.494	14	1.8	518.8	-1.0	-0.3	-22.9	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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668 ST	120X6.3SHS (EUROPEAN SECTIONS)	PASS	EC-6.2.7(5)	0.595	14
	523.72 T		-0.04	-8.81	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 197.44
 Gross Area = 28.20 Net Area = 28.20

	z-axis	y-axis
Moment of inertia	603.000	603.000
Plastic modulus	120.000	120.000
Elastic modulus	100.500	100.500
Shear Area	14.100	14.100
Radius of gyration	4.624	4.624
Effective Length	197.443	197.443

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 1001.10
 Axial force/Squash load : 0.523
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	42.7	42.7
Compression Capacity	905.9	905.9
Tension Capacity	1001.1	1001.1
Moment Capacity	42.6	42.6
Reduced Moment Capacity	26.4	26.4
Shear Capacity	289.0	289.0

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 42.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 1.974
 Elastic Critical Moment for LTB, Mcr = 1650.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.524	10	-524.6	-5.2	0.0	-8.8	0.0
EC-6.3.1.1	0.001	7	0.9	0.0	-0.1	0.0	0.0
EC-6.2.9.1	0.335	10	-524.6	-5.2	0.0	-8.8	0.0
EC-6.3.3-661	0.004	7	0.9	0.0	0.1	0.0	0.3
EC-6.3.3-662	0.006	7	0.9	0.0	0.1	0.0	0.3
EC-6.2.6-(Y)	0.020	10	-524.4	5.8	0.0	-2.1	0.1

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.595	14	0.0	-523.7	-5.2	-0.1	-8.8	0.0	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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669 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.627	14
		270.77 C	-0.44	24.46	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.119
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

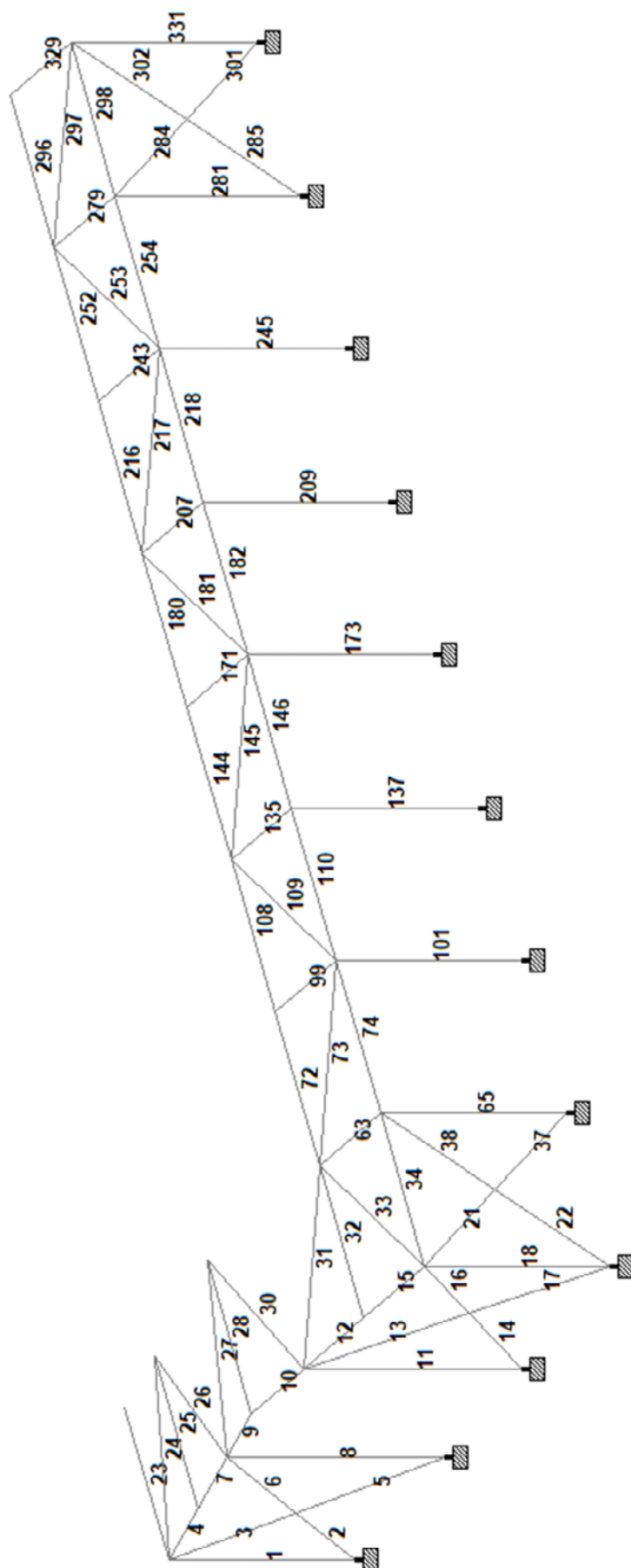
MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.475	14	270.8	12.4	0.1	24.5	-0.4
EC-6.2.9.1	0.216	12	111.7	21.1	0.1	43.6	-0.9
EC-6.3.3-661	0.312	14	270.8	12.4	0.1	24.5	-0.4
EC-6.3.3-662	0.627	14	270.8	12.4	0.1	24.5	-0.4
EC-6.2.6-(Y)	0.050	12	111.7	21.1	0.1	43.6	-0.9
EC-6.3.2 LTB	0.385	12	111.7	21.1	0.1	43.6	-0.9

JUMTA SIJU, KOLONNU, SAIŠU APRĒĶINA REZULTĀTI



Beam End Forces

Sign convention is as the action of the joint on the beam.

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
1	3	8:COMBINATIC	60.945	4.100	-7.010	-0.002	10.138	10.448
		9:COMBINATIC	97.598	6.977	0.053	-0.002	-0.387	14.931
		10:COMBINAT	95.362	5.934	0.035	-0.001	-0.253	15.152
		11:COMBINATI	36.479	2.546	-10.536	-0.003	15.363	6.465
		12:COMBINAT	91.460	6.862	0.058	-0.003	-0.423	13.190
		13:COMBINAT	90.844	5.947	-6.295	-0.003	9.028	15.168
		14:COMBINAT	123.832	8.536	0.061	-0.003	-0.445	19.202
		15:COMBINAT	62.155	4.251	-10.526	-0.003	15.289	10.822
		16:COMBINAT	84.864	6.821	0.059	-0.003	-0.428	13.098
	4	8:COMBINATIC	-57.339	-4.100	-4.232	0.002	-0.000	19.478
		9:COMBINATIC	-93.993	-2.159	-0.053	0.002	-0.002	18.411
		10:COMBINAT	-90.494	-5.934	-0.035	0.001	-0.001	28.163
		11:COMBINATI	-31.611	-2.546	-6.327	0.003	0.000	12.121
		12:COMBINAT	-86.592	0.365	-0.058	0.003	-0.003	10.520
		13:COMBINAT	-85.976	-5.947	-3.822	0.003	-0.001	28.243
		14:COMBINAT	-118.964	-4.200	-0.061	0.003	-0.002	27.283
		15:COMBINAT	-57.288	-4.251	-6.337	0.003	-0.000	20.209
		16:COMBINAT	-84.864	0.406	-0.059	0.003	-0.003	10.318
2	3	8:COMBINATIC	42.892	0.164	-0.005	0.000	0.000	0.000
		9:COMBINATIC	67.720	0.166	-0.009	0.000	0.000	0.000
		10:COMBINAT	63.567	0.222	-0.007	0.000	0.000	0.000
		11:COMBINATI	26.484	0.221	-0.004	0.000	0.000	0.000
		12:COMBINAT	63.727	0.223	-0.009	0.000	0.000	0.000
		13:COMBINAT	62.712	0.222	-0.007	0.000	0.000	0.000
		14:COMBINAT	85.058	0.223	-0.011	0.000	0.000	0.000
		15:COMBINAT	44.313	0.221	-0.006	0.000	0.000	0.000
		16:COMBINAT	61.797	0.002	-0.009	0.000	0.000	0.000
	12	8:COMBINATIC	-42.327	0.299	0.005	0.000	0.027	-0.344
		9:COMBINATIC	-67.155	0.298	0.009	0.000	0.045	-0.336
		10:COMBINAT	-62.804	0.404	0.007	0.000	0.035	-0.462
		11:COMBINATI	-25.721	0.405	0.004	0.000	0.018	-0.468
		12:COMBINAT	-62.964	0.403	0.009	0.000	0.045	-0.456
		13:COMBINAT	-61.949	0.404	0.007	0.000	0.038	-0.463
		14:COMBINAT	-84.295	0.403	0.011	0.000	0.054	-0.456
		15:COMBINAT	-43.550	0.404	0.006	0.000	0.029	-0.466
		16:COMBINAT	-61.797	-0.002	0.009	0.000	0.046	0.013
3	4	8:COMBINATIC	-28.427	0.159	0.005	0.000	0.000	0.000
		9:COMBINATIC	-49.704	0.158	0.009	0.000	0.000	0.000
		10:COMBINAT	-41.812	0.214	0.007	0.000	0.000	0.000
		11:COMBINATI	-17.177	0.217	0.004	0.000	0.000	0.000
		12:COMBINAT	-49.092	0.214	0.009	0.000	0.000	0.000
		13:COMBINAT	-41.496	0.214	0.007	0.000	0.000	0.000
		14:COMBINAT	-60.645	0.213	0.011	0.000	0.000	0.000
		15:COMBINAT	-29.232	0.216	0.006	0.000	0.000	0.000
		16:COMBINAT	-48.954	-0.004	0.009	0.000	0.000	0.000
	12	8:COMBINATIC	27.944	0.305	-0.005	0.000	-0.025	-0.339
		9:COMBINATIC	49.220	0.306	-0.009	0.000	-0.041	-0.346
		10:COMBINAT	41.159	0.412	-0.007	0.000	-0.032	-0.461
		11:COMBINATI	16.524	0.409	-0.004	0.000	-0.017	-0.448

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	48.439	0.411	-0.009	0.000	-0.041	-0.459
		13:COMBINAT	40.844	0.412	-0.007	0.000	-0.034	-0.460
		14:COMBINAT	59.993	0.413	-0.011	0.000	-0.049	-0.466
		15:COMBINAT	28.579	0.410	-0.006	0.000	-0.026	-0.454
		16:COMBINAT	48.954	0.004	-0.009	0.000	-0.042	-0.016
4	9	8:COMBINAT	9.193	4.412	0.060	-0.000	-0.213	-23.535
		9:COMBINAT	40.919	4.667	0.305	0.002	-1.086	-23.689
		10:COMBINAT	12.316	6.524	0.116	0.001	-0.413	-33.960
		11:COMBINAT	6.675	2.506	0.020	-0.001	-0.069	-14.824
		12:COMBINAT	54.265	2.889	0.387	0.002	-1.379	-15.055
		13:COMBINAT	12.924	6.466	0.098	0.000	-0.348	-34.086
		14:COMBINAT	41.478	6.696	0.318	0.002	-1.134	-34.224
		15:COMBINAT	10.002	4.467	0.053	-0.000	-0.187	-24.496
		16:COMBINAT	53.450	3.145	0.386	0.002	-1.375	-14.536
	4	8:COMBINAT	-14.994	28.479	-0.060	0.000	-0.002	-19.478
		9:COMBINAT	-46.721	28.224	-0.305	-0.002	-0.003	-18.411
		10:COMBINAT	-20.750	41.284	-0.116	-0.001	-0.001	-28.163
		11:COMBINAT	-10.218	17.582	-0.020	0.001	-0.003	-12.121
		12:COMBINAT	-57.808	17.199	-0.387	-0.002	-0.003	-10.520
		13:COMBINAT	-21.357	41.342	-0.098	-0.000	-0.003	-28.243
		14:COMBINAT	-49.911	41.112	-0.318	-0.002	-0.003	-27.283
		15:COMBINAT	-15.990	29.481	-0.053	0.000	-0.003	-20.209
		16:COMBINAT	-57.012	17.051	-0.386	-0.002	-0.003	-10.318
5	12	8:COMBINAT	-27.383	0.329	-0.005	0.000	0.025	0.316
		9:COMBINAT	-48.663	0.330	-0.007	0.000	0.041	0.323
		10:COMBINAT	-40.403	0.444	-0.006	0.000	0.032	0.427
		11:COMBINAT	-15.768	0.444	-0.003	0.000	0.017	0.428
		12:COMBINAT	-47.687	0.446	-0.008	0.000	0.041	0.438
		13:COMBINAT	-40.087	0.444	-0.006	0.000	0.034	0.426
		14:COMBINAT	-59.239	0.445	-0.009	0.000	0.049	0.433
		15:COMBINAT	-27.822	0.444	-0.005	0.000	0.026	0.427
		16:COMBINAT	-48.958	0.002	-0.008	0.000	0.042	0.009
	7	8:COMBINAT	26.818	0.213	0.005	0.000	0.000	0.000
		9:COMBINAT	48.098	0.212	0.007	0.000	0.000	0.000
		10:COMBINAT	39.640	0.288	0.006	0.000	0.000	0.000
		11:COMBINAT	15.005	0.287	0.003	0.000	0.000	0.000
		12:COMBINAT	46.924	0.285	0.008	0.000	0.000	0.000
		13:COMBINAT	39.324	0.288	0.006	0.000	0.000	0.000
		14:COMBINAT	58.476	0.286	0.009	0.000	0.000	0.000
		15:COMBINAT	27.059	0.288	0.005	0.000	0.000	0.000
		16:COMBINAT	48.958	-0.002	0.008	0.000	0.000	0.000
6	12	8:COMBINAT	41.764	0.333	0.005	0.000	-0.027	0.367
		9:COMBINAT	66.589	0.331	0.007	0.000	-0.045	0.360
		10:COMBINAT	62.044	0.449	0.006	0.000	-0.035	0.496
		11:COMBINAT	24.964	0.448	0.003	0.000	-0.018	0.488
		12:COMBINAT	62.202	0.446	0.008	0.000	-0.045	0.477
		13:COMBINAT	61.190	0.449	0.006	0.000	-0.038	0.496
		14:COMBINAT	83.532	0.448	0.009	0.000	-0.054	0.490
		15:COMBINAT	42.792	0.449	0.005	0.000	-0.029	0.492
		16:COMBINAT	61.791	-0.001	0.008	0.000	-0.046	-0.005

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	10	8:COMBINATIC	-41.103	0.209	-0.005	0.000	0.000	0.000
		9:COMBINATIC	-65.929	0.211	-0.007	0.000	0.000	0.000
		10:COMBINAT	-61.152	0.282	-0.006	0.000	0.000	0.000
		11:COMBINATI	-24.072	0.284	-0.003	0.000	0.000	0.000
		12:COMBINAT	-61.310	0.286	-0.008	0.000	0.000	0.000
		13:COMBINAT	-60.298	0.282	-0.006	0.000	0.000	0.000
		14:COMBINAT	-82.640	0.284	-0.009	0.000	0.000	0.000
		15:COMBINAT	-41.900	0.283	-0.005	0.000	0.000	0.000
		16:COMBINAT	-61.791	0.001	-0.008	0.000	0.000	0.000
7	10	8:COMBINATIC	3.381	37.356	-0.593	-0.000	1.883	51.019
		9:COMBINATIC	35.108	37.611	-0.903	0.002	2.104	51.767
		10:COMBINAT	3.877	54.366	-0.930	0.001	2.873	74.646
		11:COMBINATI	3.070	22.940	-0.322	-0.001	1.069	31.152
		12:COMBINAT	50.660	23.323	-0.786	0.002	1.399	32.274
		13:COMBINAT	4.484	54.308	-0.888	0.000	2.789	74.317
		14:COMBINAT	33.038	54.538	-1.166	0.002	2.987	74.990
		15:COMBINAT	3.980	38.605	-0.591	-0.000	1.901	52.625
		16:COMBINAT	49.927	23.113	-0.786	0.002	1.403	31.862
	9	8:COMBINATIC	-9.118	-4.836	0.593	0.000	0.213	23.535
		9:COMBINATIC	-40.844	-5.091	0.903	-0.002	1.086	23.689
		10:COMBINAT	-12.215	-7.097	0.930	-0.001	0.413	33.960
		11:COMBINATI	-6.574	-3.079	0.322	0.001	0.069	14.824
		12:COMBINAT	-54.164	-3.462	0.786	-0.002	1.379	15.055
		13:COMBINAT	-12.823	-7.039	0.888	-0.000	0.348	34.086
		14:COMBINAT	-41.377	-7.269	1.166	-0.002	1.134	34.224
		15:COMBINAT	-9.901	-5.040	0.591	0.000	0.187	24.496
		16:COMBINAT	-53.450	-3.145	0.786	-0.002	1.375	14.536
8	10	8:COMBINATIC	57.756	-9.114	-0.271	-0.004	1.387	-0.084
		9:COMBINATIC	42.200	0.044	-0.368	-0.002	1.800	-0.059
		10:COMBINAT	83.644	0.041	-0.431	-0.003	2.216	-0.088
		11:COMBINATI	36.837	-13.698	-0.142	-0.004	0.715	-0.073
		12:COMBINAT	13.503	0.040	-0.287	-0.001	1.334	-0.034
		13:COMBINAT	83.703	-8.187	-0.409	-0.005	2.093	-0.109
		14:COMBINAT	69.703	0.056	-0.495	-0.003	2.465	-0.086
		15:COMBINAT	60.290	-13.685	-0.268	-0.005	1.363	-0.098
		16:COMBINAT	10.940	0.043	-0.291	-0.001	1.358	-0.034
	7	8:COMBINATIC	-61.971	-15.296	0.271	0.004	0.929	26.465
		9:COMBINATIC	-46.416	-0.044	0.368	0.002	1.340	0.436
		10:COMBINAT	-89.335	-0.041	0.431	0.003	1.460	0.440
		11:COMBINATI	-42.528	-22.917	0.142	0.004	0.494	39.416
		12:COMBINAT	-19.195	-0.040	0.286	0.001	1.112	0.374
		13:COMBINAT	-89.395	-13.782	0.408	0.005	1.392	23.987
		14:COMBINAT	-75.395	-0.056	0.495	0.003	1.763	0.562
		15:COMBINAT	-65.981	-22.930	0.267	0.005	0.921	39.551
		16:COMBINAT	-10.940	-0.043	0.291	0.001	1.126	0.398
9	5	8:COMBINATIC	37.840	-16.880	0.778	0.082	-0.467	-41.698
		9:COMBINATIC	35.876	-17.457	0.806	0.059	-0.338	-42.294
		10:COMBINAT	50.856	-25.215	1.111	0.087	-0.493	-61.992
		11:COMBINATI	26.579	-10.067	0.487	0.070	-0.398	-24.870
		12:COMBINAT	23.634	-10.932	0.529	0.035	-0.205	-25.764

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	53.334	-24.778	1.123	0.107	-0.608	-61.113
		14:COMBINAT	51.567	-25.297	1.148	0.086	-0.492	-61.649
		15:COMBINAT	40.783	-17.277	0.809	0.095	-0.541	-42.698
		16:COMBINAT	21.882	-10.642	0.531	0.036	-0.208	-25.407
	10	8:COMBINAT	-42.784	44.909	-0.778	-0.082	-1.902	-52.407
		9:COMBINAT	-40.821	45.486	-0.806	-0.059	-2.116	-53.567
		10:COMBINAT	-58.043	65.956	-1.111	-0.087	-2.892	-76.862
		11:COMBINAT	-29.599	27.186	-0.487	-0.070	-1.085	-31.867
		12:COMBINAT	-26.654	28.051	-0.529	-0.035	-1.406	-33.608
		13:COMBINAT	-60.521	65.519	-1.123	-0.107	-2.812	-76.410
		14:COMBINAT	-58.754	66.038	-1.148	-0.086	-3.005	-77.454
		15:COMBINAT	-45.886	46.207	-0.809	-0.095	-1.922	-53.988
		16:COMBINAT	-24.918	27.853	-0.531	-0.036	-1.409	-33.220
10	5	8:COMBINAT	37.836	-16.859	-0.773	-0.082	0.467	-41.698
		9:COMBINAT	35.751	-16.748	-0.716	-0.060	0.338	-42.294
		10:COMBINAT	50.851	-25.184	-1.105	-0.087	0.493	-61.992
		11:COMBINAT	26.577	-10.056	-0.485	-0.070	0.398	-24.870
		12:COMBINAT	23.450	-9.890	-0.398	-0.037	0.205	-25.764
		13:COMBINAT	53.329	-24.747	-1.117	-0.107	0.608	-61.113
		14:COMBINAT	51.453	-24.648	-1.065	-0.087	0.492	-61.649
		15:COMBINAT	40.779	-17.256	-0.805	-0.095	0.541	-42.698
		16:COMBINAT	21.698	-9.597	-0.400	-0.037	0.207	-25.407
	11	8:COMBINAT	-42.780	44.888	0.773	0.082	1.889	-52.341
		9:COMBINAT	-40.696	44.777	0.716	0.060	1.843	-51.410
		10:COMBINAT	-58.037	65.925	1.105	0.087	2.873	-76.767
		11:COMBINAT	-29.597	27.174	0.485	0.070	1.078	-31.832
		12:COMBINAT	-26.470	27.009	0.398	0.037	1.009	-30.434
		13:COMBINAT	-60.516	65.488	1.117	0.107	2.794	-76.315
		14:COMBINAT	-58.640	65.389	1.065	0.087	2.753	-75.476
		15:COMBINAT	-45.882	46.186	0.805	0.095	1.910	-53.923
		16:COMBINAT	-24.734	26.808	0.400	0.037	1.011	-30.039
11	11	8:COMBINAT	60.771	-9.111	0.253	0.004	-1.310	-0.084
		9:COMBINAT	75.743	0.014	0.205	0.002	-1.167	-0.062
		10:COMBINAT	88.055	0.045	0.405	0.003	-2.104	-0.088
		11:COMBINAT	38.479	-13.696	0.132	0.004	-0.673	-0.073
		12:COMBINAT	60.936	-0.008	0.060	0.002	-0.458	-0.039
		13:COMBINAT	88.115	-8.183	0.382	0.004	-1.981	-0.109
		14:COMBINAT	101.589	0.030	0.339	0.003	-1.852	-0.089
		15:COMBINAT	63.316	-13.682	0.250	0.005	-1.286	-0.098
		16:COMBINAT	58.748	-0.005	0.062	0.002	-0.473	-0.040
	6	8:COMBINAT	-64.987	-15.298	-0.253	-0.004	-0.852	26.488
		9:COMBINAT	-79.959	-0.014	-0.205	-0.002	-0.585	0.183
		10:COMBINAT	-93.747	-0.045	-0.404	-0.003	-1.348	0.474
		11:COMBINAT	-44.170	-22.919	-0.132	-0.004	-0.452	39.429
		12:COMBINAT	-66.628	0.008	-0.060	-0.002	-0.051	-0.029
		13:COMBINAT	-93.806	-13.786	-0.382	-0.004	-1.280	24.021
		14:COMBINAT	-107.280	-0.030	-0.339	-0.003	-1.040	0.347
		15:COMBINAT	-69.008	-22.933	-0.249	-0.005	-0.844	39.574
		16:COMBINAT	-58.748	0.005	-0.062	-0.002	-0.056	-0.001
12	11	8:COMBINAT	2.223	37.371	0.588	0.000	-1.871	51.031

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		9:COMBINAT	-28.972	36.911	0.370	0.001	-1.830	50.243
		10:COMBINAT	2.184	54.388	0.923	-0.001	-2.855	74.663
		11:COMBINAT	2.439	22.949	0.319	0.001	-1.062	31.159
		12:COMBINAT	-44.355	22.259	-0.007	0.001	-1.000	29.976
		13:COMBINAT	2.791	54.331	0.881	-0.000	-2.771	74.334
		14:COMBINAT	-25.285	53.917	0.685	0.000	-2.734	73.624
		15:COMBINAT	2.817	38.621	0.586	0.001	-1.888	52.637
		16:COMBINAT	-45.229	22.050	-0.008	0.001	-1.002	29.566
	8	8:COMBINAT	-7.960	-4.852	-0.588	-0.000	-0.208	23.578
		9:COMBINAT	23.236	-4.392	-0.370	-0.001	0.521	22.740
		10:COMBINAT	-10.522	-7.120	-0.923	0.001	-0.406	34.023
		11:COMBINAT	-5.942	-3.087	-0.319	-0.001	-0.067	14.847
		12:COMBINAT	40.851	-2.397	0.007	-0.001	1.026	13.591
		13:COMBINAT	-11.129	-7.062	-0.881	0.000	-0.341	34.149
		14:COMBINAT	16.947	-6.648	-0.685	-0.000	0.314	33.395
		15:COMBINAT	-8.738	-5.055	-0.586	-0.001	-0.183	24.540
		16:COMBINAT	41.707	-2.082	0.008	-0.001	1.031	13.077
13	11	8:COMBINAT	36.529	0.209	-0.004	0.000	0.000	0.000
		9:COMBINAT	13.002	0.208	-0.000	0.000	0.000	0.000
		10:COMBINAT	54.462	0.282	-0.006	0.000	0.000	0.000
		11:COMBINAT	21.581	0.284	-0.003	0.000	0.000	0.000
		12:COMBINAT	-13.710	0.282	0.003	0.000	0.000	0.000
		13:COMBINAT	53.607	0.282	-0.006	0.000	0.000	0.000
		14:COMBINAT	32.432	0.281	-0.002	0.000	0.000	0.000
		15:COMBINAT	37.309	0.283	-0.005	0.000	0.000	0.000
		16:COMBINAT	-13.799	-0.003	0.003	0.000	0.000	0.000
	13	8:COMBINAT	-37.190	0.333	0.004	0.000	0.025	-0.368
		9:COMBINAT	-13.663	0.334	0.000	0.000	0.002	-0.374
		10:COMBINAT	-55.354	0.449	0.006	0.000	0.033	-0.497
		11:COMBINAT	-22.473	0.448	0.003	0.000	0.018	-0.489
		12:COMBINAT	12.818	0.450	-0.003	0.000	-0.018	-0.498
		13:COMBINAT	-54.499	0.449	0.006	0.000	0.035	-0.497
		14:COMBINAT	-33.324	0.450	0.002	0.000	0.014	-0.503
		15:COMBINAT	-38.201	0.449	0.005	0.000	0.027	-0.493
		16:COMBINAT	13.799	0.003	-0.003	0.000	-0.017	-0.016
14	6	8:COMBINAT	-22.038	0.213	0.004	0.000	0.000	0.000
		9:COMBINAT	-0.559	0.214	0.000	0.000	0.000	0.000
		10:COMBINAT	-32.647	0.288	0.006	0.000	0.000	0.000
		11:COMBINAT	-12.402	0.288	0.003	0.000	0.000	0.000
		12:COMBINAT	19.816	0.289	-0.003	0.000	0.000	0.000
		13:COMBINAT	-32.331	0.288	0.006	0.000	0.000	0.000
		14:COMBINAT	-13.001	0.289	0.002	0.000	0.000	0.000
		15:COMBINAT	-22.261	0.288	0.005	0.000	0.000	0.000
		16:COMBINAT	18.378	0.002	-0.003	0.000	0.000	0.000
	13	8:COMBINAT	22.603	0.329	-0.004	0.000	-0.023	-0.314
		9:COMBINAT	1.124	0.328	-0.000	0.000	-0.002	-0.308
		10:COMBINAT	33.410	0.444	-0.006	0.000	-0.030	-0.425
		11:COMBINAT	13.165	0.444	-0.003	0.000	-0.016	-0.427
		12:COMBINAT	-19.053	0.442	0.003	0.000	0.017	-0.418
		13:COMBINAT	33.094	0.444	-0.006	0.000	-0.032	-0.424

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		14:COMBINAT	13.764	0.443	-0.002	0.000	-0.013	-0.419
		15:COMBINAT	23.024	0.444	-0.005	0.000	-0.025	-0.425
		16:COMBINAT	-18.378	-0.002	0.003	0.000	0.016	0.012
15	2	8:COMBINAT	13.837	28.464	-0.059	0.000	0.002	19.379
		9:COMBINAT	-17.359	28.924	0.146	0.001	-0.001	21.861
		10:COMBINAT	19.056	41.262	-0.114	-0.001	0.001	28.019
		11:COMBINAT	9.587	17.574	-0.019	0.001	0.003	12.067
		12:COMBINAT	-37.207	18.264	0.288	0.001	-0.003	15.790
		13:COMBINAT	19.664	41.319	-0.096	-0.000	0.003	28.098
		14:COMBINAT	-8.412	41.733	0.088	0.000	-0.001	30.332
		15:COMBINAT	14.828	29.466	-0.052	0.001	0.003	20.109
		16:COMBINAT	-38.144	18.114	0.289	0.001	-0.002	15.575
	8	8:COMBINAT	-8.035	4.427	0.059	-0.000	0.208	23.578
		9:COMBINAT	23.161	3.967	-0.146	-0.001	-0.521	22.740
		10:COMBINAT	-10.623	6.547	0.114	0.001	0.406	34.023
		11:COMBINAT	-6.043	2.514	0.019	-0.001	0.067	14.847
		12:COMBINAT	40.750	1.824	-0.288	-0.001	-1.026	13.591
		13:COMBINAT	-11.230	6.489	0.096	0.000	0.341	34.149
		14:COMBINAT	16.846	6.075	-0.088	-0.000	-0.314	33.395
		15:COMBINAT	-8.839	4.483	0.052	-0.001	0.183	24.540
		16:COMBINAT	41.707	2.082	-0.289	-0.001	-1.031	13.077
16	13	8:COMBINAT	-23.164	0.304	-0.005	0.000	0.023	0.337
		9:COMBINAT	-1.688	0.303	-0.000	0.000	0.002	0.332
		10:COMBINAT	-34.167	0.411	-0.006	0.000	0.030	0.458
		11:COMBINAT	-13.922	0.409	-0.003	0.000	0.016	0.447
		12:COMBINAT	18.292	0.407	0.004	0.000	-0.017	0.440
		13:COMBINAT	-33.852	0.411	-0.007	0.000	0.032	0.457
		14:COMBINAT	-14.523	0.410	-0.003	0.000	0.013	0.452
		15:COMBINAT	-23.781	0.410	-0.005	0.000	0.025	0.452
		16:COMBINAT	18.373	-0.001	0.003	0.000	-0.016	-0.003
	2	8:COMBINAT	23.647	0.159	0.005	0.000	0.000	0.000
		9:COMBINAT	2.171	0.161	0.000	0.000	0.000	0.000
		10:COMBINAT	34.820	0.215	0.006	0.000	0.000	0.000
		11:COMBINAT	14.574	0.217	0.003	0.000	0.000	0.000
		12:COMBINAT	-17.640	0.219	-0.004	0.000	0.000	0.000
		13:COMBINAT	34.504	0.215	0.007	0.000	0.000	0.000
		14:COMBINAT	15.176	0.216	0.003	0.000	0.000	0.000
		15:COMBINAT	24.434	0.216	0.005	0.000	0.000	0.000
		16:COMBINAT	-18.373	0.001	-0.003	0.000	0.000	0.000
17	13	8:COMBINAT	37.752	0.300	0.005	0.000	-0.025	0.345
		9:COMBINAT	14.222	0.301	0.000	0.000	-0.002	0.350
		10:COMBINAT	56.112	0.404	0.006	0.000	-0.033	0.464
		11:COMBINAT	23.230	0.405	0.003	0.000	-0.018	0.468
		12:COMBINAT	-12.065	0.406	-0.004	0.000	0.018	0.476
		13:COMBINAT	55.257	0.404	0.007	0.000	-0.035	0.465
		14:COMBINAT	34.080	0.405	0.003	0.000	-0.014	0.469
		15:COMBINAT	38.959	0.405	0.005	0.000	-0.027	0.467
		16:COMBINAT	-13.802	0.001	-0.003	0.000	0.017	0.007
	1	8:COMBINAT	-38.317	0.164	-0.005	0.000	0.000	0.000
		9:COMBINAT	-14.787	0.163	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		10:COMBINAT	-56.875	0.222	-0.006	0.000	0.000	0.000
		11:COMBINAT	-23.993	0.221	-0.003	0.000	0.000	0.000
		12:COMBINAT	11.302	0.219	0.004	0.000	0.000	0.000
		13:COMBINAT	-56.020	0.222	-0.007	0.000	0.000	0.000
		14:COMBINAT	-34.843	0.221	-0.003	0.000	0.000	0.000
		15:COMBINAT	-39.722	0.221	-0.005	0.000	0.000	0.000
		16:COMBINAT	13.802	-0.001	0.003	0.000	0.000	0.000
18	1	8:COMBINAT	55.090	-4.061	-7.014	0.002	10.167	-10.265
		9:COMBINAT	28.441	1.804	-0.010	-0.001	0.069	-1.739
		10:COMBINAT	86.798	-5.877	0.029	0.001	-0.210	-14.885
		11:COMBINAT	33.290	-2.525	-10.538	0.003	15.379	-6.366
		12:COMBINAT	-6.685	6.272	-0.032	-0.002	0.232	6.424
		13:COMBINAT	82.280	-5.890	-6.301	0.002	9.070	-14.900
		14:COMBINAT	58.295	-0.612	0.002	-0.001	-0.018	-7.226
		15:COMBINAT	56.279	-4.212	-10.530	0.003	15.318	-10.638
		16:COMBINAT	-14.007	6.318	-0.032	-0.002	0.231	6.538
	2	8:COMBINAT	-51.485	4.061	-4.228	-0.002	-0.000	-19.379
		9:COMBINAT	-24.835	8.270	0.010	0.001	0.001	-21.861
		10:COMBINAT	-81.930	5.877	-0.029	-0.001	-0.001	-28.019
		11:COMBINAT	-28.422	2.525	-6.325	-0.003	0.000	-12.067
		12:COMBINAT	11.553	8.839	0.032	0.002	0.002	-15.790
		13:COMBINAT	-77.412	5.890	-3.816	-0.002	-0.001	-28.098
		14:COMBINAT	-53.427	9.678	-0.002	0.001	0.000	-30.332
		15:COMBINAT	-51.411	4.212	-6.333	-0.003	-0.000	-20.109
		16:COMBINAT	14.007	8.793	0.032	0.002	0.002	-15.575
21	2	8:COMBINAT	-0.878	0.160	-0.001	0.000	0.000	0.000
		9:COMBINAT	11.724	0.156	0.004	0.000	0.000	0.000
		10:COMBINAT	-10.290	0.215	-0.002	0.000	0.000	0.000
		11:COMBINAT	4.961	0.218	-0.001	0.000	0.000	0.000
		12:COMBINAT	23.864	0.211	0.008	0.000	0.000	0.000
		13:COMBINAT	-4.707	0.215	-0.002	0.000	0.000	0.000
		14:COMBINAT	6.635	0.212	0.003	0.000	0.000	0.000
		15:COMBINAT	1.988	0.217	-0.002	0.000	0.000	0.000
		16:COMBINAT	23.875	-0.007	0.008	0.000	0.000	0.000
	14	8:COMBINAT	0.354	0.271	0.001	0.000	0.007	-0.262
		9:COMBINAT	-12.248	0.275	-0.004	0.000	-0.021	-0.282
		10:COMBINAT	9.582	0.367	0.002	0.000	0.009	-0.359
		11:COMBINAT	-5.669	0.364	0.001	0.000	0.004	-0.346
		12:COMBINAT	-24.572	0.371	-0.008	0.000	-0.038	-0.376
		13:COMBINAT	3.999	0.366	0.002	0.000	0.010	-0.356
		14:COMBINAT	-7.342	0.370	-0.003	0.000	-0.016	-0.374
		15:COMBINAT	-2.696	0.365	0.002	0.000	0.007	-0.350
		16:COMBINAT	-23.875	0.007	-0.008	0.000	-0.036	-0.032
22	1	8:COMBINAT	27.622	0.161	0.001	0.000	0.000	0.000
		9:COMBINAT	-4.011	0.158	-0.004	0.000	0.000	0.000
		10:COMBINAT	48.236	0.218	0.002	0.000	0.000	0.000
		11:COMBINAT	12.113	0.218	0.001	0.000	0.000	0.000
		12:COMBINAT	-35.337	0.213	-0.008	0.000	0.000	0.000
		13:COMBINAT	43.211	0.217	0.002	0.000	0.000	0.000
		14:COMBINAT	14.741	0.214	-0.003	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		15:COMBINAT	25.987	0.218	0.002	0.000	0.000	0.000
		16:COMBINAT	-35.609	-0.006	-0.008	0.000	0.000	0.000
	14	8:COMBINAT	-27.097	0.270	-0.001	0.000	-0.007	-0.257
		9:COMBINAT	4.536	0.273	0.004	0.000	0.021	-0.273
		10:COMBINAT	-47.529	0.364	-0.002	0.000	-0.009	-0.346
		11:COMBINAT	-11.405	0.364	-0.001	0.000	-0.004	-0.345
		12:COMBINAT	36.044	0.369	0.008	0.000	0.038	-0.369
		13:COMBINAT	-42.503	0.364	-0.002	0.000	-0.010	-0.347
		14:COMBINAT	-14.033	0.367	0.003	0.000	0.016	-0.362
		15:COMBINAT	-25.279	0.364	-0.002	0.000	-0.007	-0.347
		16:COMBINAT	35.609	0.006	0.008	0.000	0.036	-0.028
23	4	8:COMBINAT	-17.378	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	26.100	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-27.879	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-8.550	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	56.667	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-26.301	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	12.829	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-16.899	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	55.680	0.000	-0.000	0.000	0.000	0.000
	23	8:COMBINAT	17.378	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-26.100	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	27.879	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	8.550	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-56.667	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	26.301	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-12.829	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	16.899	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-55.680	-0.000	0.000	0.000	0.000	0.000
24	4	8:COMBINAT	27.511	0.607	-0.000	0.000	0.000	0.000
		9:COMBINAT	-9.210	0.607	-0.000	0.000	0.000	0.000
		10:COMBINAT	42.638	0.819	-0.000	0.000	0.000	0.000
		11:COMBINAT	14.494	0.819	-0.000	0.000	0.000	0.000
		12:COMBINAT	-40.588	0.819	0.000	0.000	0.000	0.000
		13:COMBINAT	41.063	0.819	-0.000	0.000	0.000	0.000
		14:COMBINAT	8.014	0.819	-0.000	0.000	0.000	0.000
		15:COMBINAT	27.253	0.819	-0.000	0.000	0.000	0.000
		16:COMBINAT	-39.114	0.000	0.000	0.000	0.000	0.000
	24	8:COMBINAT	-27.403	0.607	0.000	0.000	0.000	0.000
		9:COMBINAT	9.318	0.607	0.000	0.000	0.000	0.000
		10:COMBINAT	-42.491	0.819	0.000	0.000	0.000	0.000
		11:COMBINAT	-14.348	0.819	0.000	0.000	0.000	0.000
		12:COMBINAT	40.734	0.819	-0.000	0.000	0.000	0.000
		13:COMBINAT	-40.917	0.819	0.000	0.000	0.000	0.000
		14:COMBINAT	-7.867	0.819	0.000	0.000	0.000	0.000
		15:COMBINAT	-27.107	0.819	0.000	0.000	0.000	0.000
		16:COMBINAT	39.114	-0.000	-0.000	0.000	0.000	0.000
25	9	8:COMBINAT	-0.653	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-1.207	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-1.046	0.582	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		11:COMBINAT	-0.342	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-1.173	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-0.986	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-1.484	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-0.644	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-1.172	-0.000	-0.000	0.000	0.000	0.000
	24	8:COMBINAT	0.653	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	1.207	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	1.046	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	0.342	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	1.173	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	0.986	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	1.484	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	0.644	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	1.172	0.000	0.000	0.000	0.000	0.000
26	24	8:COMBINAT	3.546	0.605	-0.000	0.000	0.000	0.000
		9:COMBINAT	-54.024	0.605	-0.000	0.000	0.000	0.000
		10:COMBINAT	-6.372	0.816	-0.000	0.000	0.000	0.000
		11:COMBINAT	9.787	0.816	-0.000	0.000	0.000	0.000
		12:COMBINAT	-76.569	0.816	0.000	0.000	0.000	0.000
		13:COMBINAT	0.711	0.816	-0.000	0.000	0.000	0.000
		14:COMBINAT	-51.103	0.816	-0.000	0.000	0.000	0.000
		15:COMBINAT	7.610	0.816	-0.000	0.000	0.000	0.000
		16:COMBINAT	-77.723	-0.000	0.000	0.000	0.000	0.000
	10	8:COMBINAT	-3.439	0.605	0.000	0.000	0.000	0.000
		9:COMBINAT	54.132	0.605	0.000	0.000	0.000	0.000
		10:COMBINAT	6.516	0.816	0.000	0.000	0.000	0.000
		11:COMBINAT	-9.642	0.816	0.000	0.000	0.000	0.000
		12:COMBINAT	76.714	0.816	-0.000	0.000	0.000	0.000
		13:COMBINAT	-0.567	0.816	0.000	0.000	0.000	0.000
		14:COMBINAT	51.247	0.816	0.000	0.000	0.000	0.000
		15:COMBINAT	-7.465	0.816	0.000	0.000	0.000	0.000
		16:COMBINAT	77.723	0.000	-0.000	0.000	0.000	0.000
27	10	8:COMBINAT	8.424	0.585	-0.000	0.000	0.000	0.000
		9:COMBINAT	54.160	0.585	0.000	0.000	0.000	0.000
		10:COMBINAT	8.525	0.790	-0.000	0.000	0.000	0.000
		11:COMBINAT	6.940	0.790	-0.000	0.000	0.000	0.000
		12:COMBINAT	75.544	0.790	0.000	0.000	0.000	0.000
		13:COMBINAT	10.874	0.790	-0.000	0.000	0.000	0.000
		14:COMBINAT	52.036	0.790	0.000	0.000	0.000	0.000
		15:COMBINAT	9.690	0.790	-0.000	0.000	0.000	0.000
		16:COMBINAT	76.526	0.000	0.000	0.000	0.000	0.000
	19	8:COMBINAT	-8.332	0.585	0.000	0.000	0.000	0.000
		9:COMBINAT	-54.068	0.585	-0.000	0.000	0.000	0.000
		10:COMBINAT	-8.401	0.790	0.000	0.000	0.000	0.000
		11:COMBINAT	-6.815	0.790	0.000	0.000	0.000	0.000
		12:COMBINAT	-75.420	0.790	-0.000	0.000	0.000	0.000
		13:COMBINAT	-10.749	0.790	0.000	0.000	0.000	0.000
		14:COMBINAT	-51.912	0.790	-0.000	0.000	0.000	0.000
		15:COMBINAT	-9.565	0.790	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
28	5	16:COMBINAT	-76.526	-0.000	-0.000	0.000	0.000	0.000
		8:COMBINAT	116.799	0.523	-0.000	0.000	0.000	0.000
		9:COMBINAT	116.192	0.523	-0.000	0.000	0.000	0.000
		10:COMBINAT	169.808	0.706	-0.000	0.000	0.000	0.000
		11:COMBINAT	71.316	0.706	-0.000	0.000	0.000	0.000
		12:COMBINAT	70.406	0.706	-0.000	0.000	0.000	0.000
		13:COMBINAT	169.786	0.706	-0.000	0.000	0.000	0.000
		14:COMBINAT	169.239	0.706	-0.000	0.000	0.000	0.000
	19	15:COMBINAT	120.543	0.706	-0.000	0.000	0.000	0.000
		16:COMBINAT	70.783	-0.000	-0.000	0.000	0.000	0.000
		8:COMBINAT	-116.799	0.523	0.000	0.000	0.000	0.000
		9:COMBINAT	-116.192	0.523	0.000	0.000	0.000	0.000
		10:COMBINAT	-169.808	0.706	0.000	0.000	0.000	0.000
		11:COMBINAT	-71.316	0.706	0.000	0.000	0.000	0.000
		12:COMBINAT	-70.406	0.706	0.000	0.000	0.000	0.000
		13:COMBINAT	-169.786	0.706	0.000	0.000	0.000	0.000
30	19	14:COMBINAT	-169.239	0.706	0.000	0.000	0.000	0.000
		15:COMBINAT	-120.543	0.706	0.000	0.000	0.000	0.000
		16:COMBINAT	-70.783	0.000	0.000	0.000	0.000	0.000
		8:COMBINAT	4.113	0.585	-0.000	0.000	0.000	0.000
		9:COMBINAT	-46.963	0.585	-0.000	0.000	0.000	0.000
		10:COMBINAT	2.230	0.790	-0.000	0.000	0.000	0.000
		11:COMBINAT	4.517	0.790	-0.000	0.000	0.000	0.000
		12:COMBINAT	-72.098	0.790	-0.000	0.000	0.000	0.000
	11	13:COMBINAT	4.578	0.790	-0.000	0.000	0.000	0.000
		14:COMBINAT	-41.390	0.790	-0.000	0.000	0.000	0.000
		15:COMBINAT	5.330	0.790	-0.000	0.000	0.000	0.000
		16:COMBINAT	-71.514	0.000	-0.000	0.000	0.000	0.000
		8:COMBINAT	-4.205	0.585	0.000	0.000	0.000	0.000
		9:COMBINAT	46.871	0.585	0.000	0.000	0.000	0.000
		10:COMBINAT	-2.354	0.790	0.000	0.000	0.000	0.000
		11:COMBINAT	-4.641	0.790	0.000	0.000	0.000	0.000
31	11	12:COMBINAT	71.973	0.790	0.000	0.000	0.000	0.000
		13:COMBINAT	-4.703	0.790	0.000	0.000	0.000	0.000
		14:COMBINAT	41.266	0.790	0.000	0.000	0.000	0.000
		15:COMBINAT	-5.455	0.790	0.000	0.000	0.000	0.000
		16:COMBINAT	71.514	-0.000	0.000	0.000	0.000	0.000
		8:COMBINAT	7.792	0.605	-0.000	0.000	0.000	0.000
		9:COMBINAT	49.743	0.605	-0.000	0.000	0.000	0.000
		10:COMBINAT	-0.150	0.816	-0.000	0.000	0.000	0.000
	17	11:COMBINAT	12.014	0.816	-0.000	0.000	0.000	0.000
		12:COMBINAT	74.941	0.816	-0.000	0.000	0.000	0.000
		13:COMBINAT	6.933	0.816	-0.000	0.000	0.000	0.000
		14:COMBINAT	44.689	0.816	-0.000	0.000	0.000	0.000
		15:COMBINAT	11.835	0.816	-0.000	0.000	0.000	0.000
		16:COMBINAT	74.470	-0.000	-0.000	0.000	0.000	0.000
		8:COMBINAT	-7.899	0.605	0.000	0.000	0.000	0.000
		9:COMBINAT	-49.850	0.605	0.000	0.000	0.000	0.000
		10:COMBINAT	0.005	0.816	0.000	0.000	0.000	0.000
		11:COMBINAT	-12.158	0.816	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	-75.085	0.816	0.000	0.000	0.000	0.000
		13:COMBINAT	-7.078	0.816	0.000	0.000	0.000	0.000
		14:COMBINAT	-44.834	0.816	0.000	0.000	0.000	0.000
		15:COMBINAT	-11.979	0.816	0.000	0.000	0.000	0.000
		16:COMBINAT	-74.470	0.000	0.000	0.000	0.000	0.000
32	8	8:COMBINAT	-0.647	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-0.224	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-1.036	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-0.339	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	0.295	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-0.977	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-0.596	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-0.638	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	0.297	-0.000	-0.000	0.000	0.000	0.000
	17	8:COMBINAT	0.647	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	0.224	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	1.036	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	0.339	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-0.295	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	0.977	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	0.596	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	0.638	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-0.297	0.000	0.000	0.000	0.000	0.000
33	2	8:COMBINAT	23.128	0.607	0.000	0.000	0.000	0.000
		9:COMBINAT	63.110	0.607	0.000	0.000	0.000	0.000
		10:COMBINAT	36.226	0.819	0.000	0.000	0.000	0.000
		11:COMBINAT	12.110	0.819	0.000	0.000	0.000	0.000
		12:COMBINAT	72.083	0.819	0.000	0.000	0.000	0.000
		13:COMBINAT	34.650	0.819	0.000	0.000	0.000	0.000
		14:COMBINAT	70.634	0.819	0.000	0.000	0.000	0.000
		15:COMBINAT	22.855	0.819	0.000	0.000	0.000	0.000
		16:COMBINAT	73.004	0.000	0.000	0.000	0.000	0.000
	17	8:COMBINAT	-23.019	0.607	-0.000	0.000	0.000	0.000
		9:COMBINAT	-63.001	0.607	-0.000	0.000	0.000	0.000
		10:COMBINAT	-36.080	0.819	-0.000	0.000	0.000	0.000
		11:COMBINAT	-11.964	0.819	-0.000	0.000	0.000	0.000
		12:COMBINAT	-71.937	0.819	-0.000	0.000	0.000	0.000
		13:COMBINAT	-34.504	0.819	-0.000	0.000	0.000	0.000
		14:COMBINAT	-70.488	0.819	-0.000	0.000	0.000	0.000
		15:COMBINAT	-22.709	0.819	-0.000	0.000	0.000	0.000
		16:COMBINAT	-73.004	-0.000	-0.000	0.000	0.000	0.000
34	2	8:COMBINAT	-15.097	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-61.892	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-24.542	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-7.311	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-77.504	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-22.963	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-65.079	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-14.611	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-78.198	-0.000	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	16	8:COMBINATIC	15.097	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	61.892	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	24.542	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	7.311	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	77.504	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	22.963	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	65.079	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	14.611	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	78.198	0.000	0.000	0.000	0.000	0.000
37	14	8:COMBINATIC	0.098	0.264	0.001	0.000	-0.007	0.230
		9:COMBINATIC	12.711	0.264	-0.004	0.000	0.021	0.228
		10:COMBINAT	-8.972	0.357	0.002	0.000	-0.009	0.310
		11:COMBINATI	6.272	0.360	0.001	0.000	-0.004	0.327
		12:COMBINAT	25.191	0.360	-0.008	0.000	0.038	0.325
		13:COMBINAT	-3.389	0.356	0.002	0.000	-0.010	0.308
		14:COMBINAT	7.963	0.356	-0.003	0.000	0.016	0.307
		15:COMBINAT	3.302	0.358	0.002	0.000	-0.007	0.317
		16:COMBINAT	23.898	-0.004	-0.008	0.000	0.036	-0.019
	29	8:COMBINATIC	-0.622	0.167	-0.001	0.000	0.000	0.000
		9:COMBINATIC	-13.235	0.167	0.004	0.000	0.000	0.000
		10:COMBINAT	8.264	0.225	-0.002	0.000	0.000	0.000
		11:COMBINATI	-6.980	0.222	-0.001	0.000	0.000	0.000
		12:COMBINAT	-25.899	0.222	0.008	0.000	0.000	0.000
		13:COMBINAT	2.681	0.226	-0.002	0.000	0.000	0.000
		14:COMBINAT	-8.671	0.226	0.003	0.000	0.000	0.000
		15:COMBINAT	-4.010	0.224	-0.002	0.000	0.000	0.000
		16:COMBINAT	-23.898	0.004	0.008	0.000	0.000	0.000
38	14	8:COMBINATIC	26.660	0.277	-0.001	0.000	0.007	0.290
		9:COMBINATIC	-4.975	0.285	0.004	0.000	-0.021	0.328
		10:COMBINAT	46.937	0.374	-0.002	0.000	0.009	0.395
		11:COMBINATI	10.812	0.368	-0.001	0.000	0.004	0.364
		12:COMBINAT	-36.641	0.380	0.008	0.000	-0.038	0.421
		13:COMBINAT	41.913	0.374	-0.002	0.000	0.010	0.395
		14:COMBINAT	13.441	0.382	0.003	0.000	-0.016	0.429
		15:COMBINAT	24.687	0.371	-0.002	0.000	0.007	0.380
		16:COMBINAT	-35.608	0.017	0.008	0.000	-0.036	0.080
	16	8:COMBINATIC	-26.136	0.154	0.001	0.000	0.000	0.000
		9:COMBINATIC	5.499	0.146	-0.004	0.000	0.000	0.000
		10:COMBINAT	-46.229	0.207	0.002	0.000	0.000	0.000
		11:COMBINATI	-10.104	0.214	0.001	0.000	0.000	0.000
		12:COMBINAT	37.349	0.202	-0.008	0.000	0.000	0.000
		13:COMBINAT	-41.205	0.207	0.002	0.000	0.000	0.000
		14:COMBINAT	-12.733	0.200	-0.003	0.000	0.000	0.000
		15:COMBINAT	-23.980	0.211	0.002	0.000	0.000	0.000
		16:COMBINAT	35.608	-0.017	-0.008	0.000	0.000	0.000
65	29	8:COMBINATIC	137.705	-6.620	0.136	-0.000	-0.349	-16.577
		9:COMBINATIC	163.434	5.205	0.062	-0.003	0.040	0.908
		10:COMBINAT	193.755	-9.681	0.210	-0.001	-0.592	-24.230
		11:COMBINATI	86.959	-3.612	0.073	-0.000	-0.158	-9.080
		12:COMBINAT	125.552	14.126	-0.037	-0.004	0.426	17.148

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	197.822	-9.683	0.202	-0.001	-0.540	-24.238
		14:COMBINAT	220.978	0.960	0.136	-0.003	-0.189	-8.501
		15:COMBINAT	143.746	-6.648	0.135	-0.000	-0.331	-16.662
		16:COMBINAT	128.118	13.313	-0.033	-0.004	0.418	15.167
	16	8:COMBINAT	-134.099	6.620	-0.136	0.000	-0.642	-31.751
		9:COMBINAT	-159.828	14.943	-0.062	0.003	-0.495	-36.451
		10:COMBINAT	-188.887	9.681	-0.210	0.001	-0.940	-46.444
		11:COMBINAT	-82.091	3.612	-0.073	0.000	-0.379	-17.290
		12:COMBINAT	-120.684	16.096	0.037	0.004	-0.159	-24.340
		13:COMBINAT	-192.954	9.683	-0.202	0.001	-0.936	-46.445
		14:COMBINAT	-216.110	17.173	-0.136	0.003	-0.804	-50.675
		15:COMBINAT	-138.878	6.648	-0.135	0.000	-0.656	-31.868
		16:COMBINAT	-128.118	16.909	0.033	0.004	-0.177	-28.294
72	17	8:COMBINAT	5.684	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	43.372	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	4.748	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	5.461	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	61.993	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	6.939	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	40.858	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	6.931	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	62.326	-0.000	-0.000	0.000	0.000	0.000
	33	8:COMBINAT	-5.684	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-43.372	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-4.748	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-5.461	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-61.993	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-6.939	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-40.858	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-6.931	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-62.326	0.000	0.000	0.000	0.000	0.000
73	32	8:COMBINAT	23.733	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	62.749	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	29.560	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	17.548	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	76.072	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	32.614	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	67.729	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	26.099	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	76.074	-0.000	-0.000	0.000	0.000	0.000
	17	8:COMBINAT	-23.644	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	-62.660	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	-29.440	0.675	-0.000	0.000	0.000	0.000
		11:COMBINAT	-17.427	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-75.951	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	-32.494	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	-67.608	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	-25.978	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-76.074	0.000	0.000	0.000	0.000	0.000
74	16	8:COMBINAT	1.706	0.431	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		9:COMBINATIC	-65.444	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	5.116	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	-0.688	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-101.413	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	3.495	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-56.940	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	0.863	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-101.166	0.000	-0.000	0.000	0.000	0.000
	32	8:COMBINATIC	-1.706	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	65.444	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-5.116	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	0.688	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	101.413	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-3.495	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	56.940	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-0.863	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	101.166	-0.000	0.000	0.000	0.000	0.000
101	45	8:COMBINATIC	186.182	-0.213	0.005	0.000	-0.035	-1.552
		9:COMBINATIC	186.697	13.168	-0.071	0.000	0.518	22.589
		10:COMBINAT	270.581	-0.308	0.019	0.000	-0.141	-2.247
		11:COMBINATI	111.862	-0.127	-0.005	0.000	0.034	-0.930
		12:COMBINAT	112.635	19.944	-0.118	0.000	0.863	35.282
		13:COMBINAT	270.785	-0.309	0.012	0.000	-0.085	-2.255
		14:COMBINAT	271.249	11.734	-0.057	0.000	0.413	19.472
		15:COMBINAT	191.392	-0.219	0.001	0.000	-0.007	-1.595
		16:COMBINAT	117.000	19.937	-0.118	0.000	0.863	35.229
	32	8:COMBINATIC	-182.576	0.213	-0.005	0.000	0.000	0.000
		9:COMBINATIC	-183.092	6.980	0.071	0.000	0.000	0.000
		10:COMBINAT	-265.713	0.308	-0.019	0.000	0.000	0.000
		11:COMBINATI	-106.995	0.127	0.005	0.000	0.000	0.000
		12:COMBINAT	-107.767	10.278	0.118	0.000	0.000	0.000
		13:COMBINAT	-265.917	0.309	-0.012	0.000	0.000	0.000
		14:COMBINAT	-266.381	6.399	0.057	0.000	0.000	0.000
		15:COMBINAT	-186.524	0.219	-0.001	0.000	0.000	0.000
		16:COMBINAT	-117.000	10.285	0.118	0.000	0.000	0.000
108	33	8:COMBINATIC	5.805	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	43.966	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	4.902	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	5.546	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	62.787	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	7.106	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	41.451	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	7.061	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	63.123	-0.000	-0.000	0.000	0.000	0.000
	49	8:COMBINATIC	-5.805	0.431	0.000	0.000	0.000	0.000
		9:COMBINATIC	-43.966	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-4.902	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	-5.546	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-62.787	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-7.106	0.582	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		14:COMBINAT	-41.451	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-7.061	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-63.123	0.000	0.000	0.000	0.000	0.000
109	32	8:COMBINAT	29.874	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	-3.203	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	43.462	0.675	-0.000	0.000	0.000	0.000
		11:COMBINAT	18.038	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-31.577	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	43.455	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	13.686	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	30.744	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-31.112	-0.000	-0.000	0.000	0.000	0.000
	49	8:COMBINAT	-29.785	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	3.293	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	-43.341	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	-17.918	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	31.698	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	-43.335	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	-13.565	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	-30.624	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	31.112	0.000	0.000	0.000	0.000	0.000
110	32	8:COMBINAT	-3.627	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-9.227	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-6.891	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-1.157	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-9.557	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-5.895	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-10.935	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-3.194	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-9.709	-0.000	-0.000	0.000	0.000	0.000
	48	8:COMBINAT	3.627	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	9.227	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	6.891	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	1.157	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	9.557	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	5.895	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	10.935	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	3.194	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	9.709	0.000	0.000	0.000	0.000	0.000
137	61	8:COMBINAT	185.529	-0.193	0.003	0.000	-0.022	-1.409
		9:COMBINAT	186.058	13.942	-0.075	0.000	0.551	28.238
		10:COMBINAT	269.879	-0.281	0.016	0.000	-0.116	-2.052
		11:COMBINAT	110.745	-0.114	-0.005	0.000	0.038	-0.831
		12:COMBINAT	111.538	21.089	-0.123	0.000	0.897	43.639
		13:COMBINAT	269.983	-0.281	0.009	0.000	-0.064	-2.053
		14:COMBINAT	270.460	12.441	-0.062	0.000	0.451	24.630
		15:COMBINAT	190.399	-0.198	-0.001	0.000	0.004	-1.442
		16:COMBINAT	117.035	21.081	-0.123	0.000	0.897	43.580
	48	8:COMBINAT	-181.923	0.193	-0.003	0.000	0.000	0.000
		9:COMBINAT	-182.452	6.206	0.075	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		10:COMBINAT	-265.011	0.281	-0.016	0.000	0.000	0.000
		11:COMBINAT	-105.877	0.114	0.005	0.000	0.000	0.000
		12:COMBINAT	-106.671	9.133	0.123	0.000	0.000	0.000
		13:COMBINAT	-265.116	0.281	-0.009	0.000	0.000	0.000
		14:COMBINAT	-265.592	5.693	0.062	0.000	0.000	0.000
		15:COMBINAT	-185.531	0.198	0.001	0.000	0.000	0.000
		16:COMBINAT	-117.035	9.141	0.123	0.000	0.000	0.000
144	49	8:COMBINAT	1.563	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-9.087	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	0.144	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	2.162	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-13.812	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	1.470	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-8.114	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	2.258	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-13.624	-0.000	-0.000	0.000	0.000	0.000
	65	8:COMBINAT	-1.563	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	9.087	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-0.144	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-2.162	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	13.812	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-1.470	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	8.114	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-2.258	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	13.624	0.000	0.000	0.000	0.000	0.000
145	64	8:COMBINAT	34.964	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	59.381	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	49.190	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	22.088	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	58.713	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	50.225	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	72.200	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	36.501	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	59.353	-0.000	-0.000	0.000	0.000	0.000
	49	8:COMBINAT	-34.874	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	-59.291	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	-49.070	0.675	-0.000	0.000	0.000	0.000
		11:COMBINAT	-21.967	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-58.593	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	-50.105	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	-72.080	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	-36.381	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-59.353	0.000	0.000	0.000	0.000	0.000
146	48	8:COMBINAT	-3.683	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-9.744	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-6.950	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-1.205	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-10.295	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-5.968	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-11.423	0.582	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		15:COMBINAT	-3.259	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-10.449	-0.000	-0.000	0.000	0.000	0.000
	64	8:COMBINAT	3.683	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	9.744	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	6.950	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	1.205	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	10.295	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	5.968	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	11.423	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	3.259	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	10.449	0.000	0.000	0.000	0.000	0.000
173	77	8:COMBINAT	193.716	-0.235	0.001	0.000	-0.009	-1.715
		9:COMBINAT	194.205	14.650	-0.080	0.000	0.585	33.408
		10:COMBINAT	281.787	-0.341	0.013	0.000	-0.092	-2.492
		11:COMBINAT	116.054	-0.139	-0.006	0.000	0.042	-1.018
		12:COMBINAT	116.787	22.189	-0.128	0.000	0.933	51.667
		13:COMBINAT	281.857	-0.342	0.006	0.000	-0.043	-2.496
		14:COMBINAT	282.297	13.055	-0.067	0.000	0.492	29.116
		15:COMBINAT	198.979	-0.241	-0.002	0.000	0.016	-1.758
		16:COMBINAT	121.684	22.180	-0.128	0.000	0.934	51.601
	64	8:COMBINAT	-190.110	0.235	-0.001	0.000	0.000	0.000
		9:COMBINAT	-190.599	5.498	0.080	0.000	0.000	0.000
		10:COMBINAT	-276.919	0.341	-0.013	0.000	0.000	0.000
		11:COMBINAT	-111.187	0.139	0.006	0.000	0.000	0.000
		12:COMBINAT	-111.919	8.033	0.128	0.000	0.000	0.000
		13:COMBINAT	-276.990	0.342	-0.006	0.000	0.000	0.000
		14:COMBINAT	-277.429	5.078	0.067	0.000	0.000	0.000
		15:COMBINAT	-194.112	0.241	0.002	0.000	0.000	0.000
		16:COMBINAT	-121.684	8.042	0.128	0.000	0.000	0.000
180	65	8:COMBINAT	1.642	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-8.439	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	0.234	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	2.226	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-12.896	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	1.576	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-7.497	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	2.348	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-12.707	-0.000	0.000	0.000	0.000	0.000
	81	8:COMBINAT	-1.642	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	8.439	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-0.234	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-2.226	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	12.896	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-1.576	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	7.497	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-2.348	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	12.707	0.000	-0.000	0.000	0.000	0.000
181	64	8:COMBINAT	30.759	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	11.014	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	43.797	0.675	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		11:COMBINAT	19.134	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-10.483	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	44.382	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	26.612	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	31.953	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-9.963	-0.000	-0.000	0.000	0.000	0.000
	81	8:COMBINAT	-30.670	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	-10.925	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	-43.676	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	-19.014	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	10.604	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	-44.262	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	-26.491	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	-31.833	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	9.963	0.000	0.000	0.000	0.000	0.000
182	64	8:COMBINAT	-0.104	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	31.321	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-2.343	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	1.300	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	48.438	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-0.988	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	27.295	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	0.607	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	48.387	-0.000	0.000	0.000	0.000	0.000
	80	8:COMBINAT	0.104	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-31.321	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	2.343	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-1.300	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-48.438	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	0.988	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-27.295	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-0.607	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-48.387	0.000	-0.000	0.000	0.000	0.000
209	93	8:COMBINAT	184.300	-0.196	0.001	0.000	-0.009	-1.431
		9:COMBINAT	184.716	15.382	-0.065	0.000	0.474	38.745
		10:COMBINAT	268.251	-0.286	0.011	0.000	-0.084	-2.087
		11:COMBINAT	109.927	-0.115	-0.005	0.000	0.037	-0.841
		12:COMBINAT	110.550	23.251	-0.104	0.000	0.762	59.424
		13:COMBINAT	268.255	-0.286	0.005	0.000	-0.040	-2.086
		14:COMBINAT	268.629	13.734	-0.054	0.000	0.395	34.073
		15:COMBINAT	189.093	-0.200	-0.002	0.000	0.014	-1.463
		16:COMBINAT	115.987	23.243	-0.105	0.000	0.764	59.361
	80	8:COMBINAT	-180.695	0.196	-0.001	0.000	0.000	0.000
		9:COMBINAT	-181.110	4.766	0.065	0.000	0.000	0.000
		10:COMBINAT	-263.383	0.286	-0.011	0.000	0.000	0.000
		11:COMBINAT	-105.059	0.115	0.005	0.000	0.000	0.000
		12:COMBINAT	-105.682	6.971	0.104	0.000	0.000	0.000
		13:COMBINAT	-263.388	0.286	-0.005	0.000	0.000	0.000
		14:COMBINAT	-263.762	4.399	0.054	0.000	0.000	0.000
		15:COMBINAT	-184.225	0.200	0.002	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		16:COMBINAT	-115.987	6.979	0.105	0.000	0.000	0.000
216	81	8:COMBINAT	-0.482	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-38.414	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-2.222	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	0.596	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-56.303	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-1.276	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-35.415	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-0.025	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-56.227	0.000	-0.000	0.000	0.000	0.000
	97	8:COMBINAT	0.482	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	38.414	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	2.222	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-0.596	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	56.303	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	1.276	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	35.415	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	0.025	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	56.227	-0.000	0.000	0.000	0.000	0.000
217	96	8:COMBINAT	33.330	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	46.576	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	46.772	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	21.108	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	40.976	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	47.835	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	59.756	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	34.826	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	41.630	-0.000	-0.000	0.000	0.000	0.000
	81	8:COMBINAT	-33.241	0.500	-0.000	0.000	0.000	0.000
		9:COMBINAT	-46.487	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	-46.652	0.675	-0.000	0.000	0.000	0.000
		11:COMBINAT	-20.987	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-40.856	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	-47.715	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	-59.636	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	-34.706	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-41.630	0.000	0.000	0.000	0.000	0.000
218	80	8:COMBINAT	-0.139	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	30.899	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-2.373	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	1.267	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	47.823	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-1.031	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	26.903	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	0.565	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	47.772	-0.000	-0.000	0.000	0.000	0.000
	96	8:COMBINAT	0.139	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	-30.899	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	2.373	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-1.267	0.582	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		12:COMBINAT	-47.823	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	1.031	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-26.903	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-0.565	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-47.772	0.000	0.000	0.000	0.000	0.000
245	109	8:COMBINAT	191.072	-0.234	0.001	0.000	-0.008	-1.710
		9:COMBINAT	191.472	15.871	-0.050	0.000	0.365	42.318
		10:COMBINAT	278.075	-0.341	0.010	0.000	-0.075	-2.488
		11:COMBINAT	114.627	-0.139	-0.005	0.000	0.033	-1.014
		12:COMBINAT	115.227	24.019	-0.081	0.000	0.593	65.027
		13:COMBINAT	278.039	-0.341	0.005	0.000	-0.036	-2.489
		14:COMBINAT	278.398	14.154	-0.041	0.000	0.300	37.136
		15:COMBINAT	196.321	-0.240	-0.002	0.000	0.012	-1.752
		16:COMBINAT	119.579	24.010	-0.082	0.000	0.595	64.964
	96	8:COMBINAT	-187.466	0.234	-0.001	0.000	0.000	0.000
		9:COMBINAT	-187.866	4.277	0.050	0.000	0.000	0.000
		10:COMBINAT	-273.207	0.341	-0.010	0.000	0.000	0.000
		11:COMBINAT	-109.759	0.139	0.005	0.000	0.000	0.000
		12:COMBINAT	-110.359	6.203	0.081	0.000	0.000	0.000
		13:COMBINAT	-273.171	0.341	-0.005	0.000	0.000	0.000
		14:COMBINAT	-273.531	3.979	0.041	0.000	0.000	0.000
		15:COMBINAT	-191.453	0.240	0.002	0.000	0.000	0.000
		16:COMBINAT	-119.579	6.212	0.082	0.000	0.000	0.000
252	97	8:COMBINAT	-0.411	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-38.002	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-2.138	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	0.652	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-55.735	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	-1.180	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-35.012	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	0.055	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-55.660	-0.000	0.000	0.000	0.000	0.000
	113	8:COMBINAT	0.411	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	38.002	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	2.138	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	-0.652	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	55.735	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	1.180	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	35.012	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-0.055	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	55.660	0.000	-0.000	0.000	0.000	0.000
253	96	8:COMBINAT	30.544	0.500	0.000	0.000	0.000	0.000
		9:COMBINAT	20.325	0.500	0.000	0.000	0.000	0.000
		10:COMBINAT	44.586	0.675	0.000	0.000	0.000	0.000
		11:COMBINAT	18.642	0.675	0.000	0.000	0.000	0.000
		12:COMBINAT	3.314	0.675	0.000	0.000	0.000	0.000
		13:COMBINAT	44.459	0.675	0.000	0.000	0.000	0.000
		14:COMBINAT	35.263	0.675	0.000	0.000	0.000	0.000
		15:COMBINAT	31.509	0.675	0.000	0.000	0.000	0.000
		16:COMBINAT	3.209	0.000	0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
	113	8:COMBINATIC	-30.455	0.500	-0.000	0.000	0.000	0.000
		9:COMBINATIC	-20.236	0.500	-0.000	0.000	0.000	0.000
		10:COMBINAT	-44.466	0.675	-0.000	0.000	0.000	0.000
		11:COMBINATI	-18.522	0.675	-0.000	0.000	0.000	0.000
		12:COMBINAT	-3.194	0.675	-0.000	0.000	0.000	0.000
		13:COMBINAT	-44.339	0.675	-0.000	0.000	0.000	0.000
		14:COMBINAT	-35.142	0.675	-0.000	0.000	0.000	0.000
		15:COMBINAT	-31.388	0.675	-0.000	0.000	0.000	0.000
		16:COMBINAT	-3.209	-0.000	-0.000	0.000	0.000	0.000
254	96	8:COMBINATIC	2.227	0.431	0.000	0.000	0.000	0.000
		9:COMBINATIC	53.147	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	-0.519	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	3.357	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	79.738	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	1.835	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	47.663	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	3.381	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	80.338	-0.000	0.000	0.000	0.000	0.000
	112	8:COMBINATIC	-2.227	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	-53.147	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	0.519	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	-3.357	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-79.738	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-1.835	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-47.663	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	-3.381	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-80.338	0.000	-0.000	0.000	0.000	0.000
281	125	8:COMBINATIC	163.934	-0.198	0.002	0.000	-0.016	-1.447
		9:COMBINATIC	149.214	16.255	-0.024	0.000	0.178	45.123
		10:COMBINAT	242.525	-0.290	0.010	0.000	-0.073	-2.114
		11:COMBINATI	96.630	-0.117	-0.003	0.000	0.021	-0.853
		12:COMBINAT	74.550	24.563	-0.043	0.000	0.312	69.001
		13:COMBINAT	239.985	-0.289	0.006	0.000	-0.042	-2.109
		14:COMBINAT	226.737	14.519	-0.018	0.000	0.132	39.803
		15:COMBINAT	167.461	-0.203	0.000	0.000	-0.000	-1.480
		16:COMBINAT	76.897	24.556	-0.043	0.000	0.312	68.949
	112	8:COMBINATIC	-160.328	0.198	-0.002	0.000	0.000	0.000
		9:COMBINATIC	-145.608	3.893	0.024	0.000	0.000	0.000
		10:COMBINAT	-237.657	0.290	-0.010	0.000	0.000	0.000
		11:COMBINATI	-91.762	0.117	0.003	0.000	0.000	0.000
		12:COMBINAT	-69.682	5.659	0.043	0.000	0.000	0.000
		13:COMBINAT	-235.117	0.289	-0.006	0.000	0.000	0.000
		14:COMBINAT	-221.869	3.614	0.018	0.000	0.000	0.000
		15:COMBINAT	-162.593	0.203	-0.000	0.000	0.000	0.000
		16:COMBINAT	-76.897	5.666	0.043	0.000	0.000	0.000
284	112	8:COMBINATIC	25.564	0.155	-0.002	0.000	0.000	0.000
		9:COMBINATIC	45.171	0.161	0.000	0.000	0.000	0.000
		10:COMBINAT	32.268	0.209	-0.002	0.000	0.000	0.000
		11:COMBINATI	17.746	0.215	-0.001	0.000	0.000	0.000
		12:COMBINAT	47.157	0.224	0.002	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		13:COMBINAT	35.377	0.209	-0.002	0.000	0.000	0.000
		14:COMBINAT	53.024	0.214	-0.001	0.000	0.000	0.000
		15:COMBINAT	27.598	0.212	-0.002	0.000	0.000	0.000
		16:COMBINAT	48.950	0.005	0.002	0.000	0.000	0.000
	128	8:COMBINAT	-26.088	0.276	0.002	0.000	0.008	-0.284
		9:COMBINAT	-45.696	0.270	-0.000	0.000	-0.002	-0.256
		10:COMBINAT	-32.976	0.373	0.002	0.000	0.011	-0.388
		11:COMBINAT	-18.454	0.367	0.001	0.000	0.005	-0.360
		12:COMBINAT	-47.865	0.358	-0.002	0.000	-0.009	-0.318
		13:COMBINAT	-36.085	0.373	0.002	0.000	0.011	-0.387
		14:COMBINAT	-53.732	0.368	0.001	0.000	0.002	-0.362
		15:COMBINAT	-28.306	0.370	0.002	0.000	0.008	-0.373
		16:COMBINAT	-48.950	-0.005	-0.002	0.000	-0.009	0.024
285	125	8:COMBINAT	26.135	0.166	0.002	0.000	0.000	0.000
		9:COMBINAT	20.241	0.166	-0.000	0.000	0.000	0.000
		10:COMBINAT	42.758	0.224	0.002	0.000	0.000	0.000
		11:COMBINAT	13.317	0.221	0.001	0.000	0.000	0.000
		12:COMBINAT	4.476	0.221	-0.002	0.000	0.000	0.000
		13:COMBINAT	39.779	0.224	0.002	0.000	0.000	0.000
		14:COMBINAT	34.474	0.225	0.001	0.000	0.000	0.000
		15:COMBINAT	25.555	0.222	0.002	0.000	0.000	0.000
		16:COMBINAT	4.025	0.003	-0.002	0.000	0.000	0.000
	128	8:COMBINAT	-25.611	0.265	-0.002	0.000	-0.008	-0.235
		9:COMBINAT	-19.716	0.265	0.000	0.000	0.002	-0.233
		10:COMBINAT	-42.050	0.357	-0.002	0.000	-0.011	-0.314
		11:COMBINAT	-12.610	0.361	-0.001	0.000	-0.005	-0.332
		12:COMBINAT	-3.768	0.361	0.002	0.000	0.009	-0.329
		13:COMBINAT	-39.071	0.357	-0.002	0.000	-0.011	-0.315
		14:COMBINAT	-33.766	0.357	-0.001	0.000	-0.002	-0.313
		15:COMBINAT	-24.847	0.359	-0.002	0.000	-0.008	-0.324
		16:COMBINAT	-4.025	-0.003	0.002	0.000	0.009	0.014
296	113	8:COMBINAT	-4.601	0.431	0.000	0.000	0.000	0.000
		9:COMBINAT	-11.500	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-8.379	0.582	0.000	0.000	0.000	0.000
		11:COMBINAT	-1.746	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	-12.095	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-7.335	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	-13.544	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-4.192	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	-12.173	-0.000	-0.000	0.000	0.000	0.000
	131	8:COMBINAT	4.601	0.431	-0.000	0.000	0.000	0.000
		9:COMBINAT	11.500	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	8.379	0.582	-0.000	0.000	0.000	0.000
		11:COMBINAT	1.746	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	12.095	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	7.335	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	13.544	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	4.192	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	12.173	0.000	0.000	0.000	0.000	0.000
297	130	8:COMBINAT	32.154	0.607	-0.000	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		9:COMBINATIC	3.292	0.607	-0.000	0.000	0.000	0.000
		10:COMBINAT	44.407	0.819	-0.000	0.000	0.000	0.000
		11:COMBINATI	20.897	0.819	-0.000	0.000	0.000	0.000
		12:COMBINAT	-22.397	0.819	-0.000	0.000	0.000	0.000
		13:COMBINAT	45.866	0.819	-0.000	0.000	0.000	0.000
		14:COMBINAT	19.890	0.819	-0.000	0.000	0.000	0.000
		15:COMBINAT	33.867	0.819	-0.000	0.000	0.000	0.000
		16:COMBINAT	-21.962	0.000	-0.000	0.000	0.000	0.000
	113	8:COMBINATIC	-32.046	0.607	0.000	0.000	0.000	0.000
		9:COMBINATIC	-3.184	0.607	0.000	0.000	0.000	0.000
		10:COMBINAT	-44.261	0.819	0.000	0.000	0.000	0.000
		11:COMBINATI	-20.750	0.819	0.000	0.000	0.000	0.000
		12:COMBINAT	22.543	0.819	0.000	0.000	0.000	0.000
		13:COMBINAT	-45.720	0.819	0.000	0.000	0.000	0.000
		14:COMBINAT	-19.744	0.819	0.000	0.000	0.000	0.000
		15:COMBINAT	-33.721	0.819	0.000	0.000	0.000	0.000
		16:COMBINAT	21.962	-0.000	0.000	0.000	0.000	0.000
298	112	8:COMBINATIC	-14.147	0.431	0.000	0.000	0.000	0.000
		9:COMBINATIC	24.186	0.431	-0.000	0.000	0.000	0.000
		10:COMBINAT	-21.190	0.582	0.000	0.000	0.000	0.000
		11:COMBINATI	-8.096	0.582	0.000	0.000	0.000	0.000
		12:COMBINAT	49.403	0.582	-0.000	0.000	0.000	0.000
		13:COMBINAT	-20.817	0.582	0.000	0.000	0.000	0.000
		14:COMBINAT	13.683	0.582	0.000	0.000	0.000	0.000
		15:COMBINAT	-14.332	0.582	0.000	0.000	0.000	0.000
		16:COMBINAT	49.035	-0.000	-0.000	0.000	0.000	0.000
	130	8:COMBINATIC	14.147	0.431	-0.000	0.000	0.000	0.000
		9:COMBINATIC	-24.186	0.431	0.000	0.000	0.000	0.000
		10:COMBINAT	21.190	0.582	-0.000	0.000	0.000	0.000
		11:COMBINATI	8.096	0.582	-0.000	0.000	0.000	0.000
		12:COMBINAT	-49.403	0.582	0.000	0.000	0.000	0.000
		13:COMBINAT	20.817	0.582	-0.000	0.000	0.000	0.000
		14:COMBINAT	-13.683	0.582	-0.000	0.000	0.000	0.000
		15:COMBINAT	14.332	0.582	-0.000	0.000	0.000	0.000
		16:COMBINAT	-49.035	0.000	0.000	0.000	0.000	0.000
301	128	8:COMBINATIC	26.533	0.265	0.002	0.000	-0.008	0.233
		9:COMBINATIC	46.137	0.263	-0.000	0.000	0.002	0.224
		10:COMBINAT	33.576	0.357	0.002	0.000	-0.011	0.313
		11:COMBINATI	19.053	0.361	0.001	0.000	-0.005	0.329
		12:COMBINAT	48.459	0.358	-0.002	0.000	0.009	0.316
		13:COMBINAT	36.686	0.357	0.002	0.000	-0.011	0.312
		14:COMBINAT	54.329	0.355	0.001	0.000	-0.002	0.305
		15:COMBINAT	28.906	0.359	0.002	0.000	-0.008	0.320
		16:COMBINAT	48.946	-0.006	-0.002	0.000	0.009	-0.027
	143	8:COMBINATIC	-27.057	0.166	-0.002	0.000	0.000	0.000
		9:COMBINATIC	-46.661	0.168	0.000	0.000	0.000	0.000
		10:COMBINAT	-34.284	0.225	-0.002	0.000	0.000	0.000
		11:COMBINATI	-19.761	0.221	-0.001	0.000	0.000	0.000
		12:COMBINAT	-49.167	0.224	0.002	0.000	0.000	0.000
		13:COMBINAT	-37.394	0.225	-0.002	0.000	0.000	0.000

Beam End Forces Cont...

Beam	Node	L/C	Axial	Shear		Torsion	Bending	
			Fx (kN)	Fy (kN)	Fz (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
		14:COMBINAT	-55.037	0.226	-0.001	0.000	0.000	0.000
		15:COMBINAT	-29.614	0.223	-0.002	0.000	0.000	0.000
		16:COMBINAT	-48.946	0.006	0.002	0.000	0.000	0.000
331	143	8:COMBINAT	170.392	-0.232	-0.005	0.000	0.034	-1.692
		9:COMBINAT	175.086	16.263	-0.013	0.000	0.093	45.181
		10:COMBINAT	243.816	-0.336	-0.000	0.000	0.001	-2.455
		11:COMBINAT	106.016	-0.139	-0.007	0.000	0.050	-1.014
		12:COMBINAT	113.058	24.604	-0.019	0.000	0.138	69.295
		13:COMBINAT	246.243	-0.337	-0.004	0.000	0.031	-2.460
		14:COMBINAT	250.467	14.508	-0.011	0.000	0.084	39.726
		15:COMBINAT	176.938	-0.238	-0.007	0.000	0.050	-1.738
		16:COMBINAT	114.429	24.597	-0.019	0.000	0.139	69.246
	130	8:COMBINAT	-166.786	0.232	0.005	0.000	0.000	0.000
		9:COMBINAT	-171.481	3.885	0.013	0.000	0.000	0.000
		10:COMBINAT	-238.948	0.336	0.000	0.000	0.000	0.000
		11:COMBINAT	-101.148	0.139	0.007	0.000	0.000	0.000
		12:COMBINAT	-108.190	5.618	0.019	0.000	0.000	0.000
		13:COMBINAT	-241.375	0.337	0.004	0.000	0.000	0.000
		14:COMBINAT	-245.600	3.625	0.011	0.000	0.000	0.000
		15:COMBINAT	-172.070	0.238	0.007	0.000	0.000	0.000
		16:COMBINAT	-114.429	5.625	0.019	0.000	0.000	0.000

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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1 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.423	14
		118.96 C	0.00	27.28	7.30

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.052
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	6	-5.0	0.0	-7.0	0.0	10.3
EC-6.3.1.1	0.217	14	123.8	8.5	0.1	19.2	-0.4
EC-6.2.9.1	0.162	15	62.2	4.3	-10.5	10.8	15.3
EC-6.3.3-661	0.204	14	119.0	-4.2	-0.1	27.3	0.0
EC-6.3.3-662	0.423	14	119.0	-4.2	-0.1	27.3	0.0
EC-6.2.6-(Z)	0.016	11	36.5	2.5	-10.5	6.5	15.4
EC-6.2.6-(Y)	0.020	14	123.8	8.5	0.1	19.2	-0.4
EC-6.3.2 LTB	0.250	13	86.0	-5.9	-3.8	28.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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2 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.451	14
		84.29 C	0.05	-0.46	5.09

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 508.87
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	508.873	508.873

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.127
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	131.7	131.7
Compression Capacity	193.8	193.8
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.089
 Elastic Critical Moment for LTB, Mcr = 305.6

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.001	6	-1.0	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.439	14	85.1	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.020	11	25.7	0.4	0.0	-0.5	0.0
EC-6.3.3-661	0.447	14	84.3	0.4	0.0	-0.5	0.1
EC-6.3.3-662	0.451	14	84.3	0.4	0.0	-0.5	0.1
EC-6.2.6-(Y)	0.002	10	62.8	0.4	0.0	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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3 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.091	14
		60.65 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 466.27
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	466.268	466.268

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.091
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	120.7	120.7
Compression Capacity	226.1	226.1
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.663
 Elastic Critical Moment for LTB, Mcr = 333.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.091	14	-60.6	0.2	0.0	0.0	0.0
EC-6.3.1.1	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.020	14	-60.0	0.4	0.0	-0.5	0.0
EC-6.3.3-661	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.3.3-662	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.2.6-(Y)	0.002	10	-41.2	0.4	0.0	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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4 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.251	14
		42.88 C	-0.94	-35.84	0.60

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 357.43
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	357.435	357.435

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.019
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	39.0	64.8
Compression Capacity	2008.1	1442.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 165.5
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 320.3
 Critical Load For Torsional Buckling, NcrT = 4637.9
 Critical Load For Torsional-Flexural Buckling, NcrTF = 4637.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.040	12	57.8	17.2	-0.4	-10.5	0.0
EC-6.2.9.1	0.178	14	42.9	-1.3	0.3	-35.8	-0.9
EC-6.3.3-661	0.195	14	42.9	-1.3	0.3	-35.8	-0.9
EC-6.3.3-662	0.251	14	42.9	-1.3	0.3	-35.8	-0.9
EC-6.2.6-(Y)	0.098	13	21.4	41.3	-0.1	-28.2	0.0
EC-6.3.2 LTB	0.217	14	42.9	-1.3	0.3	-35.8	-0.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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5 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.089	14
		59.24 T	0.05	0.43	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 545.12
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	545.117	545.117

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.089
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	141.1	141.1
Compression Capacity	171.2	171.2
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.451
 Elastic Critical Moment for LTB, Mcr = 285.6

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.089	14	-59.2	0.4	0.0	0.4	0.0
EC-6.3.1.1	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.019	12	-47.7	0.4	0.0	0.4	0.0
EC-6.3.3-661	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.3.3-662	0.002	6	0.4	0.0	0.0	0.0	0.0
EC-6.2.6-(Y)	0.002	10	-40.4	0.4	0.0	0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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6 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.592	14
		83.53 C	-0.05	0.49	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 594.98
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	594.976	594.976

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.126
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	154.0	154.0
Compression Capacity	145.8	145.8
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.950
 Elastic Critical Moment for LTB, Mcr = 262.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.001	6	-0.9	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.573	14	83.5	0.4	0.0	0.5	-0.1
EC-6.2.9.1	0.021	10	62.0	0.4	0.0	0.5	0.0
EC-6.3.3-661	0.592	14	83.5	0.4	0.0	0.5	-0.1
EC-6.3.3-662	0.592	14	83.5	0.4	0.0	0.5	-0.1
EC-6.2.6-(Y)	0.002	10	62.0	0.4	0.0	0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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7 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.482	14
		33.04 C	2.99	74.99	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 353.40
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	353.405	353.405

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.014
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	38.5	64.1
Compression Capacity	2014.0	1455.8
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 166.2
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.534
 Elastic Critical Moment for LTB, Mcr = 325.5
 Critical Load For Torsional Buckling, NcrT = 4699.2
 Critical Load For Torsional-Flexural Buckling, NcrTF = 4699.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.037	12	54.2	-3.5	0.8	15.1	1.4
EC-6.2.9.1	0.372	14	33.0	54.5	-1.2	75.0	3.0
EC-6.3.3-661	0.206	14	33.0	54.5	-1.2	75.0	3.0
EC-6.3.3-662	0.482	14	33.0	54.5	-1.2	75.0	3.0
EC-6.2.6-(Z)	0.002	14	33.0	54.5	-1.2	75.0	3.0
EC-6.2.6-(Y)	0.129	14	33.0	54.5	-1.2	75.0	3.0
EC-6.3.2 LTB	0.451	14	33.0	54.5	-1.2	75.0	3.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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8 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.520	15
		65.98 C	0.92	39.55	8.53

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 853.49
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	853.486	853.486

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.029
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	93.0	154.8
Compression Capacity	1069.4	438.0
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 101.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 8.535
 Elastic Critical Moment for LTB, Mcr = 112.7
 Critical Load For Torsional Buckling, NcrT = 2431.2
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2431.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.007	7	-15.5	0.0	-0.1	0.0	0.3
EC-6.3.1.1	0.204	13	89.4	-13.8	0.4	24.0	1.4
EC-6.2.9.1	0.196	15	66.0	-22.9	0.3	39.6	0.9
EC-6.3.3-661	0.264	15	66.0	-22.9	0.3	39.6	0.9
EC-6.3.3-662	0.520	15	66.0	-22.9	0.3	39.6	0.9
EC-6.2.5	0.130	6	0.1	-15.3	0.0	26.2	-0.1
EC-6.2.6-(Y)	0.054	11	42.5	-22.9	0.1	39.4	0.5
EC-6.3.2 LTB	0.389	15	66.0	-22.9	0.3	39.6	0.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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9 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.489	14
		58.75 C	-3.01	-77.45	3.05

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 304.60
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	304.600	304.600

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.026
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	33.2	55.2
Compression Capacity	2082.0	1621.5
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 174.9
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.046
 Elastic Critical Moment for LTB, Mcr = 405.7
 Critical Load For Torsional Buckling, NcrT = 5646.7
 Critical Load For Torsional-Flexural Buckling, NcrTF = 5646.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.037	13	60.5	65.5	-1.1	-76.4	-2.8
EC-6.2.9.1	0.384	14	58.8	66.0	-1.1	-77.5	-3.0
EC-6.3.3-661	0.217	14	58.8	66.0	-1.1	-77.5	-3.0
EC-6.3.3-662	0.489	14	58.8	66.0	-1.1	-77.5	-3.0
EC-6.2.6-(Z)	0.002	10	50.9	-25.2	1.1	-62.0	-0.5
EC-6.2.6-(Y)	0.156	14	58.8	66.0	-1.1	-77.5	-3.0
EC-6.3.2 LTB	0.443	14	58.8	66.0	-1.1	-77.5	-3.0

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.251	14	3.0	58.8	66.0	-1.1	-77.5	-3.0	-0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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10 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.484	10
		58.04 C	2.87	-76.77	3.05

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 304.60
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	304.600	304.600

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.025
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	33.2	55.2
Compression Capacity	2082.0	1621.5
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 174.9
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.046
 Elastic Critical Moment for LTB, Mcr = 405.7
 Critical Load For Torsional Buckling, NcrT = 5646.7
 Critical Load For Torsional-Flexural Buckling, NcrTF = 5646.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.037	13	60.5	65.5	1.1	-76.3	2.8
EC-6.2.9.1	0.381	10	58.0	65.9	1.1	-76.8	2.9
EC-6.3.3-661	0.214	10	58.0	65.9	1.1	-76.8	2.9
EC-6.3.3-662	0.484	10	58.0	65.9	1.1	-76.8	2.9
EC-6.2.6-(Z)	0.002	10	50.9	-25.2	-1.1	-62.0	0.5
EC-6.2.6-(Y)	0.156	10	58.0	65.9	1.1	-76.8	2.9
EC-6.3.2 LTB	0.439	10	58.0	65.9	1.1	-76.8	2.9

ADDITIONAL CLAUSE CHECKS FOR TORSION (units- kN,m):

CLAUSE	RATIO	LOAD	DIST	FX	VY	VZ	MZ	MY	MX
EC-6.2.7(5)	0.247	10	3.0	58.0	65.9	1.1	-76.8	2.9	0.1

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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11 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.526	15
		69.01 C	-0.84	39.57	8.53

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MATERIAL DATA

Grade of steel	=	S 355
Modulus of elasticity	=	205 kN/mm ²
Design Strength (py)	=	355 N/mm ²

SECTION PROPERTIES (units - cm)

Member Length =	853.49
Gross Area =	64.30
Net Area =	64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	853.486	853.486

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class	: CLASS 2
Squash Load	: 2282.65
Axial force/Squash load	: 0.030
GM0 : 1.00	GM1 : 1.00
	GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	93.0	154.8
Compression Capacity	1069.4	438.0
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment	MB = 101.6
co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 8.535	
Elastic Critical Moment for LTB,	Mcr = 112.7
Critical Load For Torsional Buckling,	NcrT = 2431.2
Critical Load For Torsional-Flexural Buckling,	NcrTF = 2431.2

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.245	14	107.3	0.0	-0.3	0.3	-1.0
EC-6.2.9.1	0.196	15	69.0	-22.9	-0.2	39.6	-0.8
EC-6.3.3-661	0.267	15	69.0	-22.9	-0.2	39.6	-0.8
EC-6.3.3-662	0.526	15	69.0	-22.9	-0.2	39.6	-0.8
EC-6.2.5	0.130	6	0.1	-15.3	0.0	26.2	0.1
EC-6.2.6-(Y)	0.054	11	44.2	-22.9	-0.1	39.4	-0.5
EC-6.3.2 LTB	0.389	15	69.0	-22.9	-0.2	39.6	-0.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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12 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.467	10
		2.18 C	-2.86	74.66	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 353.40
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	353.403	353.403

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.001
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	38.5	64.1
Compression Capacity	2014.0	1455.8
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 166.2
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.534
 Elastic Critical Moment for LTB, Mcr = 325.5
 Critical Load For Torsional Buckling, NcrT = 4699.3
 Critical Load For Torsional-Flexural Buckling, NcrTF = 4699.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.020	16	-45.2	22.1	0.0	29.6	-1.0
EC-6.3.1.1	0.008	13	11.1	-7.1	-0.9	34.1	-0.3
EC-6.2.9.1	0.370	10	2.2	54.4	0.9	74.7	-2.9
EC-6.3.3-661	0.191	10	2.2	54.4	0.9	74.7	-2.9
EC-6.3.3-662	0.467	10	2.2	54.4	0.9	74.7	-2.9
EC-6.2.5	0.016	2	0.1	2.4	0.0	3.3	-0.1
EC-6.2.6-(Z)	0.001	10	2.2	54.4	0.9	74.7	-2.9
EC-6.2.6-(Y)	0.129	10	2.2	54.4	0.9	74.7	-2.9
EC-6.3.2 LTB	0.449	10	2.2	54.4	0.9	74.7	-2.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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13 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.399	10
		55.35 C	0.03	-0.50	5.95

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 594.98
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	594.975	594.975

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.083
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	154.0	154.0
Compression Capacity	145.8	145.8
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.950
 Elastic Critical Moment for LTB, Mcr = 262.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.037	7	-24.5	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.380	10	55.4	0.4	0.0	-0.5	0.0
EC-6.2.9.1	0.021	14	33.3	0.5	0.0	-0.5	0.0
EC-6.3.3-661	0.396	10	55.4	0.4	0.0	-0.5	0.0
EC-6.3.3-662	0.399	10	55.4	0.4	0.0	-0.5	0.0
EC-6.2.6-(Y)	0.002	10	55.4	0.4	0.0	-0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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14 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.129	12
		19.05 C	0.02	-0.42	5.45

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 545.12
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	545.117	545.117

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.029
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	141.1	141.1
Compression Capacity	171.2	171.2
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.451
 Elastic Critical Moment for LTB, Mcr = 285.6

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.050	10	-33.4	0.4	0.0	-0.4	0.0
EC-6.3.1.1	0.128	7	21.8	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.018	10	-33.4	0.4	0.0	-0.4	0.0
EC-6.3.3-661	0.128	7	21.8	0.0	0.0	0.0	0.0
EC-6.3.3-662	0.129	12	19.1	0.4	0.0	-0.4	0.0
EC-6.2.6-(Y)	0.002	10	-33.4	0.4	0.0	-0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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15 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.226	13
		12.64 C	-0.28	-35.64	2.98

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 357.44
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	357.436	357.436

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.006
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	39.0	64.8
Compression Capacity	2008.1	1442.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 165.5
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 3.574
 Elastic Critical Moment for LTB, Mcr = 320.3
 Critical Load For Torsional Buckling, NcrT = 4637.9
 Critical Load For Torsional-Flexural Buckling, NcrTF = 4637.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.018	16	-41.7	2.1	-0.3	13.1	-1.0
EC-6.3.1.1	0.014	13	19.7	41.3	-0.1	28.1	0.0
EC-6.2.9.1	0.177	13	12.6	1.5	-0.1	-35.6	-0.3
EC-6.3.3-661	0.174	13	12.6	1.5	-0.1	-35.6	-0.3
EC-6.3.3-662	0.226	13	12.6	1.5	-0.1	-35.6	-0.3
EC-6.2.6-(Y)	0.099	14	-8.4	41.7	0.1	30.3	0.0
EC-6.3.2 LTB	0.215	13	12.6	1.5	-0.1	-35.6	-0.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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16 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.099	12
		18.29 C	-0.02	0.44	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 466.27
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	466.268	466.268

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.028
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	120.7	120.7
Compression Capacity	226.1	226.1
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.663
 Elastic Critical Moment for LTB, Mcr = 333.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.052	10	-34.8	0.2	0.0	0.0	0.0
EC-6.3.1.1	0.097	7	21.8	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.019	10	-34.2	0.4	0.0	0.5	0.0
EC-6.3.3-661	0.097	7	21.8	0.0	0.0	0.0	0.0
EC-6.3.3-662	0.099	12	18.3	0.4	0.0	0.4	0.0
EC-6.2.6-(Y)	0.002	10	-34.2	0.4	0.0	0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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17 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.306	10
		56.11 C	-0.03	0.46	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 508.87
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	508.873	508.873

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.085
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	131.7	131.7
Compression Capacity	193.8	193.8
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 5.089
 Elastic Critical Moment for LTB, Mcr = 305.6

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.037	7	-24.5	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.293	10	56.9	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.020	12	-12.1	0.4	0.0	0.5	0.0
EC-6.3.3-661	0.300	10	56.1	0.4	0.0	0.5	0.0
EC-6.3.3-662	0.306	10	56.1	0.4	0.0	0.5	0.0
EC-6.2.6-(Y)	0.002	10	56.1	0.4	0.0	0.5	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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18 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.368	10
		81.93 C	0.00	-28.02	7.30

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.036
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	7	-31.7	5.9	0.0	8.5	0.2
EC-6.3.1.1	0.152	10	86.8	-5.9	0.0	-14.9	-0.2
EC-6.2.9.1	0.162	15	56.3	-4.2	-10.5	-10.6	15.3
EC-6.3.3-661	0.167	10	81.9	5.9	0.0	-28.0	0.0
EC-6.3.3-662	0.368	10	81.9	5.9	0.0	-28.0	0.0
EC-6.2.6-(Z)	0.016	11	33.3	-2.5	-10.5	-6.4	15.4
EC-6.2.6-(Y)	0.023	14	53.4	9.7	0.0	-30.3	0.0
EC-6.3.2 LTB	0.268	14	53.4	9.7	0.0	-30.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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21 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.127	12
		24.57 C	-0.04	-0.38	4.72

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.037
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.016	10	-10.3	0.2	0.0	0.0	0.0
EC-6.3.1.1	0.111	12	24.6	0.4	0.0	-0.4	0.0
EC-6.2.9.1	0.016	12	24.6	0.4	0.0	-0.4	0.0
EC-6.3.3-661	0.119	12	24.6	0.4	0.0	-0.4	0.0
EC-6.3.3-662	0.127	12	24.6	0.4	0.0	-0.4	0.0
EC-6.2.5	0.007	1	0.1	-0.2	0.0	0.2	0.0
EC-6.2.6-(Y)	0.002	10	-9.6	0.4	0.0	-0.4	0.0
EC-6.3.2 LTB	0.007	1	0.1	-0.2	0.0	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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22 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.229	10
		47.53 C	-0.01	-0.35	4.72

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.072
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.056	7	-37.2	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.218	10	48.2	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.016	12	-36.0	0.4	0.0	-0.4	0.0
EC-6.3.3-661	0.224	10	47.5	0.4	0.0	-0.3	0.0
EC-6.3.3-662	0.229	10	47.5	0.4	0.0	-0.3	0.0
EC-6.2.6-(Y)	0.002	10	47.5	0.4	0.0	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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23 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.441	12
		56.67 C	0.00	-0.87	3.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.085
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.042	10	-27.9	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.395	12	56.7	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-27.9	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.441	12	56.7	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.430	12	56.7	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-27.9	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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24 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.273	10
		42.56 C	0.00	-1.43	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.053
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	149.1	149.1
Compression Capacity	187.9	187.9
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 396.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.050	12	-40.7	-0.1	0.0	-1.4	0.0
EC-6.3.1.1	0.227	10	42.6	0.8	0.0	0.0	0.0
EC-6.2.9.1	0.041	10	42.6	0.0	0.0	-1.4	0.0
EC-6.3.3-661	0.273	10	42.6	0.0	0.0	-1.4	0.0
EC-6.3.3-662	0.266	10	42.6	0.0	0.0	-1.4	0.0
EC-6.2.6-(Y)	0.004	10	42.6	0.8	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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25 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		1.05 T	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.002
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	14	-1.5	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-1.0	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-1.0	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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26 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.096	16
		77.72 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 696.34
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	696.343	696.343

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.096
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	148.7	148.7
Compression Capacity	188.9	188.9
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.963
 Elastic Critical Moment for LTB, Mcr = 397.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.096	16	-77.7	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.052	11	9.8	0.8	0.0	0.0	0.0
EC-6.2.9.1	0.041	10	-6.4	0.0	0.0	-1.4	0.0
EC-6.3.3-661	0.092	11	9.7	0.0	0.0	-1.4	0.0
EC-6.3.3-662	0.092	11	9.7	0.0	0.0	-1.4	0.0
EC-6.2.5	0.030	1	0.0	0.1	0.0	-1.0	0.0
EC-6.2.6-(Y)	0.004	10	-6.4	0.8	0.0	0.0	0.0
EC-6.3.2 LTB	0.030	1	0.0	0.1	0.0	-1.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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27 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.423	12
		75.48 C	0.00	-1.33	3.36

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 672.89
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	672.890	672.890

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.094
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	143.7	143.7
Compression Capacity	201.1	201.1
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.729
 Elastic Critical Moment for LTB, Mcr = 411.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.380	16	76.5	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.038	10	8.5	0.0	0.0	-1.3	0.0
EC-6.3.3-661	0.423	12	75.5	0.0	0.0	-1.3	0.0
EC-6.3.3-662	0.412	12	75.5	0.0	0.0	-1.3	0.0
EC-6.2.5	0.028	1	0.1	0.0	0.0	-1.0	0.0
EC-6.2.6-(Y)	0.003	10	8.5	0.8	0.0	0.0	0.0
EC-6.3.2 LTB	0.028	1	0.1	0.0	0.0	-1.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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28 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.732	10
		169.81 C	0.00	-1.06	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.211
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	128.1	128.1
Compression Capacity	247.3	247.3
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 460.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.687	10	169.8	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.031	10	169.8	0.0	0.0	-1.1	0.0
EC-6.3.3-661	0.732	10	169.8	0.0	0.0	-1.1	0.0
EC-6.3.3-662	0.714	10	169.8	0.0	0.0	-1.1	0.0
EC-6.2.6-(Y)	0.003	10	169.8	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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30 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.089	12
		72.10 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 672.89
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	672.890	672.890

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.089
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	143.7	143.7
Compression Capacity	201.1	201.1
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 6.729
 Elastic Critical Moment for LTB, Mcr = 411.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.089	12	-72.1	0.8	0.0	0.0	0.0
EC-6.3.1.1	0.027	15	5.5	0.8	0.0	0.0	0.0
EC-6.2.9.1	0.038	10	2.3	0.0	0.0	-1.3	0.0
EC-6.3.3-661	0.064	15	5.4	0.0	0.0	-1.3	0.0
EC-6.3.3-662	0.065	15	5.4	0.0	0.0	-1.3	0.0
EC-6.2.6-(Y)	0.003	10	2.2	0.8	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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31 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.448	12
		75.01 C	0.00	-1.42	3.48

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 696.34
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	696.343	696.343

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.093
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	148.7	148.7
Compression Capacity	188.9	188.9
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.963
 Elastic Critical Moment for LTB, Mcr = 397.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.397	12	75.1	0.8	0.0	0.0	0.0
EC-6.2.9.1	0.041	10	-0.1	0.0	0.0	-1.4	0.0
EC-6.3.3-661	0.448	12	75.0	0.0	0.0	-1.4	0.0
EC-6.3.3-662	0.436	12	75.0	0.0	0.0	-1.4	0.0
EC-6.2.6-(Y)	0.004	10	-0.1	0.8	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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32 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.039	12
		0.30 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.000
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	10	-1.0	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.003	7	0.5	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-1.0	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.037	12	0.3	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.039	12	0.3	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-1.0	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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33 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.434	12
		72.01 C	0.00	-1.43	3.49

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia	498.000	498.000
Plastic modulus	97.600	97.600
Elastic modulus	83.000	83.000
Shear Area	11.350	11.350
Radius of gyration	4.684	4.684
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.089
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	149.1	149.1
Compression Capacity	187.9	187.9
Tension Capacity	805.9	805.9
Moment Capacity	34.6	34.6
Reduced Moment Capacity	34.6	34.6
Shear Capacity	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 396.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.002	6	-1.8	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.389	16	73.0	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.041	10	36.2	0.0	0.0	-1.4	0.0
EC-6.3.3-661	0.434	12	72.0	0.0	0.0	-1.4	0.0
EC-6.3.3-662	0.422	12	72.0	0.0	0.0	-1.4	0.0
EC-6.2.6-(Y)	0.004	10	36.2	0.8	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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34 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.118	16
		78.20 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.118
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.118	16	-78.2	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.012	6	1.8	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-24.5	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-24.5	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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37 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.128	12
		25.19 C	0.04	0.33	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.038
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1_K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	10	-9.0	0.4	0.0	0.3	0.0
EC-6.3.1.1	0.117	12	25.9	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.014	11	6.3	0.4	0.0	0.3	0.0
EC-6.3.3-661	0.123	12	25.2	0.4	0.0	0.3	0.0
EC-6.3.3-662	0.128	12	25.2	0.4	0.0	0.3	0.0
EC-6.2.5	0.010	8	0.1	0.3	0.0	0.2	0.0
EC-6.2.6-(Y)	0.002	10	-9.0	0.4	0.0	0.3	0.0
EC-6.3.2 LTB	0.010	8	0.1	0.3	0.0	0.2	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE NOTED)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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38 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.227	10
		46.94 C	0.01	0.39	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.071
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.056	12	-37.3	-0.2	0.0	-0.1	0.0
EC-6.3.1.1	0.212	10	46.9	0.4	0.0	0.4	0.0
EC-6.2.9.1	0.018	14	13.4	0.4	0.0	0.4	0.0
EC-6.3.3-661	0.220	10	46.9	0.4	0.0	0.4	0.0
EC-6.3.3-662	0.227	10	46.9	0.4	0.0	0.4	0.0
EC-6.2.6-(Y)	0.002	10	46.9	0.4	0.0	0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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65 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.721	14
		216.11 C	-0.80	-50.68	7.30

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.095
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.388	14	221.0	1.0	0.1	-8.5	-0.2
EC-6.2.9.1	0.251	14	216.1	17.2	-0.1	-50.7	-0.8
EC-6.3.3-661	0.373	14	216.1	17.2	-0.1	-50.7	-0.8
EC-6.3.3-662	0.721	14	216.1	17.2	-0.1	-50.7	-0.8
EC-6.2.6-(Y)	0.041	14	216.1	17.2	-0.1	-50.7	-0.8
EC-6.3.2 LTB	0.448	14	216.1	17.2	-0.1	-50.7	-0.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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72 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.479	12
		61.99 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.093
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.434	16	62.3	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	4.7	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.479	12	62.0	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.467	12	62.0	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	4.7	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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73 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-661	0.778	12
		76.01 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.115
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.704	12	76.1	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	29.5	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.778	12	76.0	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.748	12	76.0	0.0	0.0	-1.2	0.0
EC-6.2.6- (Y)	0.004	10	29.6	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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74 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.2.3 (T)	0.153	12
		101.41 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.153
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.153	12	-101.4	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.036	10	5.1	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	5.1	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.072	10	5.1	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.072	10	5.1	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	5.1	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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101 ST	HE220A	(EUROPEAN SECTIONS) PASS	EC-6.3.3-662	0.598	14
		271.25 C	0.41	19.47	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.119
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.476	14	271.2	11.7	-0.1	19.5	0.4
EC-6.2.9.1	0.175	12	112.6	19.9	-0.1	35.3	0.9
EC-6.3.3-661	0.291	14	271.2	11.7	-0.1	19.5	0.4
EC-6.3.3-662	0.598	14	271.2	11.7	-0.1	19.5	0.4
EC-6.2.6-(Y)	0.047	12	112.6	19.9	-0.1	35.3	0.9
EC-6.3.2 LTB	0.312	12	112.6	19.9	-0.1	35.3	0.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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108 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-661	0.485	12
		62.79 C	0.00	-0.87	3.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

		z-axis	y-axis
Moment of inertia	:	279.000	279.000
Plastic modulus	:	66.400	66.400
Elastic modulus	:	55.800	55.800
Shear Area	:	9.350	9.350
Radius of gyration	:	3.863	3.863
Effective Length	:	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.095
 G_{M0} : 1.00 G_{M1} : 1.00 G_{M2} : 1.25

		z-axis	y-axis
Slenderness ratio (KL/r)	:	155.3	155.3
Compression Capacity	:	143.5	143.5
Tension Capacity	:	663.9	663.9
Moment Capacity	:	23.6	23.6
Reduced Moment Capacity	:	23.6	23.6
Shear Capacity	:	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment M_B = 23.6
 co-efficients C₁ _K : C₁ =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, M_{cr} = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.440	16	63.1	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	4.9	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.485	12	62.8	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.472	12	62.8	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	4.9	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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109 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.464	10
		43.40 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

		z-axis	y-axis
Moment of inertia	:	279.000	279.000
Plastic modulus	:	66.400	66.400
Elastic modulus	:	55.800	55.800
Shear Area	:	9.350	9.350
Radius of gyration	:	3.863	3.863
Effective Length	:	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.065
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

		z-axis	y-axis
Slenderness ratio (KL/r)	:	180.8	180.8
Compression Capacity	:	108.0	108.0
Tension Capacity	:	663.9	663.9
Moment Capacity	:	23.6	23.6
Reduced Moment Capacity	:	23.6	23.6
Shear Capacity	:	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.050	7	-33.1	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.402	10	43.5	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	43.4	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.464	10	43.4	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.449	10	43.4	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	43.5	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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110 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		6.89 T	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.010
 G_{M0} : 1.00 G_{M1} : 1.00 G_{M2} : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment M_B = 23.6
 co-efficients C₁ _K : C₁ =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, M_{cr} = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.016	14	-10.9	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.008	6	1.1	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-6.9	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-6.9	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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137 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.628	14
		270.46 C	0.45	24.63	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.118
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.474	14	270.5	12.4	-0.1	24.6	0.5
EC-6.2.9.1	0.216	12	111.5	21.1	-0.1	43.6	0.9
EC-6.3.3-661	0.312	14	270.5	12.4	-0.1	24.6	0.5
EC-6.3.3-662	0.628	14	270.5	12.4	-0.1	24.6	0.5
EC-6.2.6- (Y)	0.050	12	111.5	21.1	-0.1	43.6	0.9
EC-6.3.2 LTB	0.386	12	111.5	21.1	-0.1	43.6	0.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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144 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.053	15
		2.26 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.003
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.021	12	-13.8	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.016	15	2.3	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	0.1	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.051	15	2.3	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.053	15	2.3	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	0.1	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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145 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-661	0.741	14
		72.14 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.109
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, M_{cr} = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.668	14	72.2	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	49.1	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.741	14	72.1	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.713	14	72.1	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	49.2	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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146 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		6.95 T	0.00	-0.87	3.00

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MATERIAL DATA

Grade of steel = S 355
Modulus of elasticity = 205 kN/mm2
Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
Squash Load : 663.85
Axial force/Squash load : 0.010
GMO : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.017	14	-11.4	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.008	6	1.1	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-7.0	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-7.0	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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173 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.673	14
		282.30 C	0.49	29.12	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.124
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.495	14	282.3	13.1	-0.1	29.1	0.5
EC-6.2.9.1	0.256	12	116.8	22.2	-0.1	51.7	0.9
EC-6.3.3-661	0.341	14	282.3	13.1	-0.1	29.1	0.5
EC-6.3.3-662	0.673	14	282.3	13.1	-0.1	29.1	0.5
EC-6.2.6- (Y)	0.052	12	116.8	22.2	-0.1	51.7	0.9
EC-6.3.2 LTB	0.457	12	116.8	22.2	-0.1	51.7	0.9

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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180 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.053	15
		2.35 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.004
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.019	12	-12.9	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.016	15	2.3	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	0.2	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.052	15	2.3	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.053	15	2.3	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	0.2	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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181 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.473	13
		44.32 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.067
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.029	7	-19.1	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.411	13	44.4	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	43.7	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.473	13	44.3	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.457	13	44.3	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	43.8	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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182 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.382	12
		48.44 C	0.00	-0.87	3.00

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MATERIAL DATA

Grade of steel = S 355
Modulus of elasticity = 205 kN/mm2
Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
Gross Area = 18.70 Net Area = 18.70

		z-axis	y-axis
Moment of inertia	:	279.000	279.000
Plastic modulus	:	66.400	66.400
Elastic modulus	:	55.800	55.800
Shear Area	:	9.350	9.350
Radius of gyration	:	3.863	3.863
Effective Length	:	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
Squash Load : 663.85
Axial force/Squash load : 0.073
GMO : 1.00 GM1 : 1.00 GM2 : 1.25

		z-axis	y-axis
Slenderness ratio (KL/r)	:	155.3	155.3
Compression Capacity	:	143.5	143.5
Tension Capacity	:	663.9	663.9
Moment Capacity	:	23.6	23.6
Reduced Moment Capacity	:	23.6	23.6
Shear Capacity	:	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.004	10	-2.3	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.337	12	48.4	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-2.3	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.382	12	48.4	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.373	12	48.4	0.0	0.0	-0.9	0.0
EC-6.2.5	0.027	1	0.0	0.0	0.0	-0.6	0.0
EC-6.2.6-(Y)	0.003	10	-2.3	0.6	0.0	0.0	0.0
EC-6.3.2 LTB	0.027	1	0.0	0.0	0.0	-0.6	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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209 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.682	14
		268.63 C	0.40	34.07	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.118
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.471	14	268.6	13.7	-0.1	34.1	0.4
EC-6.2.9.1	0.295	12	110.6	23.3	-0.1	59.4	0.8
EC-6.3.3-661	0.349	14	268.6	13.7	-0.1	34.1	0.4
EC-6.3.3-662	0.682	14	268.6	13.7	-0.1	34.1	0.4
EC-6.2.6-(Y)	0.055	12	110.6	23.3	-0.1	59.4	0.8
EC-6.3.2 LTB	0.526	12	110.6	23.3	-0.1	59.4	0.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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216 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.2.3 (T)	0.085	12
		56.30 T	0.00	0.00	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.085
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.085	12	-56.3	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.007	6	1.1	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-2.2	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.039	11	0.6	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.041	11	0.6	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-2.2	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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217 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-661	0.621	14
		59.70 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.090
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, M_{cr} = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
=====						

CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.553	14	59.8	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	46.7	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.621	14	59.7	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.599	14	59.7	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	46.8	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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218 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.378	12
		47.82 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.072
 G_{M0} : 1.00 G_{M1} : 1.00 G_{M2} : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment M_B = 23.6
 co-efficients C₁ _K : C₁ =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, M_{cr} = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.004	10	-2.4	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.333	12	47.8	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-2.4	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.378	12	47.8	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.368	12	47.8	0.0	0.0	-0.9	0.0
EC-6.2.5	0.027	1	0.0	0.0	0.0	-0.6	0.0
EC-6.2.6-(Y)	0.003	10	-2.4	0.6	0.0	0.0	0.0
EC-6.3.2 LTB	0.027	1	0.0	0.0	0.0	-0.6	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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245 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.713	14
		278.40 C	0.30	37.14	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.122
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.488	14	278.4	14.2	0.0	37.1	0.3
EC-6.2.9.1	0.322	12	115.2	24.0	-0.1	65.0	0.6
EC-6.3.3-661	0.369	14	278.4	14.2	0.0	37.1	0.3
EC-6.3.3-662	0.713	14	278.4	14.2	0.0	37.1	0.3
EC-6.2.6-(Y)	0.057	12	115.2	24.0	-0.1	65.0	0.6
EC-6.3.2 LTB	0.575	12	115.2	24.0	-0.1	65.0	0.6

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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252 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.3 (T)	0.084	12
		55.73 T	0.00	0.00	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.084
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, M_{cr} = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.084	12	-55.7	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.007	6	1.1	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-2.1	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.040	11	0.7	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.042	11	0.7	0.0	0.0	-0.9	0.0
EC-6.2.5	0.037	15	0.1	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-2.1	0.6	0.0	0.0	0.0
EC-6.3.2 LTB	0.037	15	0.1	0.0	0.0	-0.9	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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253 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.475	10
		44.53 C	0.00	-1.18	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm²
 Design Strength (py) = 355 N/mm²

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.067
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	180.8	180.8
Compression Capacity	108.0	108.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, Mcr = 223.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.016	7	-10.4	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.413	10	44.6	0.7	0.0	0.0	0.0
EC-6.2.9.1	0.050	10	44.5	0.0	0.0	-1.2	0.0
EC-6.3.3-661	0.475	10	44.5	0.0	0.0	-1.2	0.0
EC-6.3.3-662	0.459	10	44.5	0.0	0.0	-1.2	0.0
EC-6.2.6-(Y)	0.004	10	44.6	0.7	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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254 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.606	12
		79.74 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.120
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, M_{cr} = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.560	16	80.3	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-0.5	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.606	12	79.7	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.590	12	79.7	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-0.5	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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281 ST	HE220A	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.692	16
		76.90 C	0.31	68.95	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia :	5410.000	1955.000
Plastic modulus :	568.000	271.000
Elastic modulus :	515.238	177.727
Shear Area :	32.266	20.630
Radius of gyration :	9.173	5.514
Effective Length :	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.034
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r) :	79.6	132.4
Compression Capacity :	1302.9	570.1
Tension Capacity :	2282.7	2282.7
Moment Capacity :	201.6	96.2
Reduced Moment Capacity :	201.6	96.2
Shear Capacity :	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.008	7	-17.5	16.5	0.0	46.6	0.2
EC-6.3.1.1	0.425	10	242.5	-0.3	0.0	-2.1	-0.1
EC-6.2.9.1	0.342	12	74.6	24.6	0.0	69.0	0.3
EC-6.3.3-661	0.335	14	226.7	14.5	0.0	39.8	0.1
EC-6.3.3-662	0.692	16	76.9	24.6	0.0	68.9	0.3
EC-6.2.6-(Y)	0.058	12	74.6	24.6	0.0	69.0	0.3
EC-6.3.2 LTB	0.610	12	74.6	24.6	0.0	69.0	0.3

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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284 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-662	0.257	14
		53.73 C	0.00	-0.36	4.72

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.081
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.243	14	53.7	0.4	0.0	-0.4	0.0
EC-6.2.9.1	0.016	10	33.0	0.4	0.0	-0.4	0.0
EC-6.3.3-661	0.252	14	53.7	0.4	0.0	-0.4	0.0
EC-6.3.3-662	0.257	14	53.7	0.4	0.0	-0.4	0.0
EC-6.2.6-(Y)	0.002	10	33.0	0.4	0.0	-0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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285 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-662	0.203	10
		42.05 C	-0.01	-0.31	4.72

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.063
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, M_{cr} = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):							
CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	7	-9.2	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.194	10	42.8	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.014	11	12.6	0.4	0.0	-0.3	0.0
EC-6.3.3-661	0.199	10	42.1	0.4	0.0	-0.3	0.0
EC-6.3.3-662	0.203	10	42.1	0.4	0.0	-0.3	0.0
EC-6.2.6-(Y)	0.002	10	42.1	0.4	0.0	-0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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296 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.2.9.1	0.037	10
		8.38 T	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.013
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.020	14	-13.5	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.008	6	1.2	0.0	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-8.4	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-8.4	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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297 ST	120X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.291	13
		45.79 C	0.00	-1.43	3.49

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 698.40
 Gross Area = 22.70 Net Area = 22.70

	z-axis	y-axis
Moment of inertia :	498.000	498.000
Plastic modulus :	97.600	97.600
Elastic modulus :	83.000	83.000
Shear Area :	11.350	11.350
Radius of gyration :	4.684	4.684
Effective Length :	698.398	698.398

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 805.85
 Axial force/Squash load : 0.057
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r) :	149.1	149.1
Compression Capacity :	187.9	187.9
Tension Capacity :	805.9	805.9
Moment Capacity :	34.6	34.6
Reduced Moment Capacity :	34.6	34.6
Shear Capacity :	232.6	232.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 34.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.984
 Elastic Critical Moment for LTB, M_{cr} = 396.5

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.034	7	-27.2	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.244	13	45.9	0.8	0.0	0.0	0.0
EC-6.2.9.1	0.041	10	44.3	0.0	0.0	-1.4	0.0
EC-6.3.3-661	0.291	13	45.8	0.0	0.0	-1.4	0.0
EC-6.3.3-662	0.284	13	45.8	0.0	0.0	-1.4	0.0
EC-6.2.6-(Y)	0.004	10	44.4	0.8	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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298 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-661	0.389	12
		49.40 C	0.00	-0.87	3.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 600.00
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	600.000	600.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.074
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	155.3	155.3
Compression Capacity	143.5	143.5
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 6.000
 Elastic Critical Moment for LTB, Mcr = 259.8

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.032	10	-21.2	0.6	0.0	0.0	0.0
EC-6.3.1.1	0.344	12	49.4	0.6	0.0	0.0	0.0
EC-6.2.9.1	0.037	10	-21.2	0.0	0.0	-0.9	0.0
EC-6.3.3-661	0.389	12	49.4	0.0	0.0	-0.9	0.0
EC-6.3.3-662	0.379	12	49.4	0.0	0.0	-0.9	0.0
EC-6.2.6-(Y)	0.003	10	-21.2	0.6	0.0	0.0	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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301 ST	100X5SHS	(EUROPEAN SECTIONS)			
		PASS	EC-6.3.3-662	0.258	14
		54.33 C	0.00	0.30	0.00

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MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.082
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL MY	COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.249	14	55.0	0.2	0.0	0.0	0.0
EC-6.2.9.1	0.014	11	19.1	0.4	0.0	0.3	0.0
EC-6.3.3-661	0.255	14	54.3	0.4	0.0	0.3	0.0
EC-6.3.3-662	0.258	14	54.3	0.4	0.0	0.3	0.0
EC-6.2.6-(Y)	0.002	10	33.6	0.4	0.0	0.3	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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302 ST	100X5SHS	(EUROPEAN SECTIONS) PASS	EC-6.3.3-662	0.202	10
		41.45 C	0.01	0.39	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 472.47
 Gross Area = 18.70 Net Area = 18.70

	z-axis	y-axis
Moment of inertia	279.000	279.000
Plastic modulus	66.400	66.400
Elastic modulus	55.800	55.800
Shear Area	9.350	9.350
Radius of gyration	3.863	3.863
Effective Length	472.467	472.467

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 1
 Squash Load : 663.85
 Axial force/Squash load : 0.062
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	122.3	122.3
Compression Capacity	221.0	221.0
Tension Capacity	663.9	663.9
Moment Capacity	23.6	23.6
Reduced Moment Capacity	23.6	23.6
Shear Capacity	191.6	191.6

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 23.6
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 4.725
 Elastic Critical Moment for LTB, Mcr = 328.7

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.2.3 (T)	0.014	7	-9.2	0.0	0.0	0.0	0.0
EC-6.3.1.1	0.188	10	41.4	0.4	0.0	0.4	0.0
EC-6.2.9.1	0.016	10	41.4	0.4	0.0	0.4	0.0
EC-6.3.3-661	0.195	10	41.4	0.4	0.0	0.4	0.0
EC-6.3.3-662	0.202	10	41.4	0.4	0.0	0.4	0.0
EC-6.2.6-(Y)	0.002	10	41.4	0.4	0.0	0.4	0.0

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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331 ST	HE220A	(EUROPEAN SECTIONS) PASS	EC-6.3.3-662	0.732	16
		114.43 C	0.14	69.25	0.00

MATERIAL DATA

Grade of steel = S 355
 Modulus of elasticity = 205 kN/mm2
 Design Strength (py) = 355 N/mm2

SECTION PROPERTIES (units - cm)

Member Length = 730.00
 Gross Area = 64.30 Net Area = 64.30

	z-axis	y-axis
Moment of inertia	5410.000	1955.000
Plastic modulus	568.000	271.000
Elastic modulus	515.238	177.727
Shear Area	32.266	20.630
Radius of gyration	9.173	5.514
Effective Length	730.000	730.000

DESIGN DATA (units - kN,m) EUROCODE NO.3 /2005

Section Class : CLASS 2
 Squash Load : 2282.65
 Axial force/Squash load : 0.050
 GM0 : 1.00 GM1 : 1.00 GM2 : 1.25

	z-axis	y-axis
Slenderness ratio (KL/r)	79.6	132.4
Compression Capacity	1302.9	570.1
Tension Capacity	2282.7	2282.7
Moment Capacity	201.6	96.2
Reduced Moment Capacity	201.6	96.2
Shear Capacity	661.3	422.8

BUCKLING CALCULATIONS (units - kN,m)

Lateral Torsional Buckling Moment MB = 113.0
 co-efficients C1 _K : C1 =1.132 K =1.0, Effective Length= 7.300
 Elastic Critical Moment for LTB, Mcr = 132.7
 Critical Load For Torsional Buckling, NcrT = 2603.4
 Critical Load For Torsional-Flexural Buckling, NcrTF = 2603.4

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
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CRITICAL LOADS FOR EACH CLAUSE CHECK (units- kN,m):

CLAUSE	RATIO	LOAD	FX	VY	VZ	MZ	MY
EC-6.3.1.1	0.439	14	250.5	14.5	0.0	39.7	0.1
EC-6.2.9.1	0.344	12	113.1	24.6	0.0	69.3	0.1
EC-6.3.3-661	0.355	14	250.5	14.5	0.0	39.7	0.1
EC-6.3.3-662	0.732	16	114.4	24.6	0.0	69.2	0.1
EC-6.2.6-(Y)	0.058	12	113.1	24.6	0.0	69.3	0.1
EC-6.3.2 LTB	0.613	12	113.1	24.6	0.0	69.3	0.1

BŪVLAUKUMA ĢEOTEHNISKIE APSTĀKĻI

SIA „Geo Eksperts” 2017. gadā augustā ir veikusi būvlaukuma pamatnes ģeotehnisko izpēti un.

Pamatojoties uz urbšanas, statistiskās zondēšanas un laboratorijas testu rezultātiem grunts masīva griezumā izdalīti sekojoši ģeotehniskie elementi (ĢTE):

1. ĢTE–1a (xMg) – UZBĒRUMS: olī ar šķembām un smilšaina māla piejaukumu, slāņa biezums – 0,2 – 0,3 m.
2. ĢTE–1b (xMg) - UZBĒRUMS: vidēji rupja SMILTS ar mālaines smilts piejaukumu, irdena, slāņa biezums – 0,6 m.
3. ĢTE–73 (FSa) - Smalka SMILTS, vidēji blīva, slāņa biezums – 0,4 – 0,8 m.
4. ĢTE–153 (sasiCL) - Smilšains, puteklains MĀLS (smilšmāls), stingras līdz cietas konsistences, slāņa biezums 1,0-2,7 m.
5. ĢTE–194 (sasiCL) - Smilšains, puteklains MĀLS (morēnas smilšmāls), cietas konsistences, ar grants piejaukumu un retām smilts starpkārtām, slāņa biezums – 3,5 – 5,7 m.

Ģeoloģiskie ieteikumi

1. Pētāmās teritorijas ģeotehniskā griezuma virskārtu veido neliela biezuma augsnes kārtā (10-20 cm).
2. Virknē izpētes punktu, griezuma augšdaļā konstatēta 30-40 cm bieža kārtā, ko veidoja sarkano ķieģeļu lauskas, domājams, izlīdzinātas paliekas no agrākajām ķieģeļcepļa ēkām. Plānojot zemes darbus, šīs ķieģeļu lausku kārtas esamība ir jāņem vērā, jo precīza šīs kārtas izplatība nav noteikta.
3. Uzreiz zem augsnes slāņa (vai ķieģeļu lauku kārtas), visa pārbaudītā ģeoloģiskā griezuma ietvaros, konstatēts smilšaina, puteklaina māla slānis (ĢTE15³), stingras līdz cietas konsistences. Šī slāņa stiprības rādītāji ir salīdzinoši nelieli. Slānis ĢTE15³ var kalpot par pamatni ēkām un būvēm ar ierobežotām slodzēm uz pamatiem.
4. Atsevišķos izpētes punktos griezuma augšdaļā, konstatēts smalkas, vidēji blīvas smilts slānis ĢTE7³, kura biezums ir neliels, 0.4-0.8 robežās, savukārt nestspēja vērtējama kā apmierinoša, piemērota virknei ēku un būvju ar ierobežotām slodzēm uz pamatiem.
5. Griezuma vidus un lejasdaļā, līdz pat izpētītajam dziļumam 7 m, konstatēts smilšains, puteklains māls (morēnas smilšmāls), cietas konsistences, ar grants piejaukumu un retām smilts starpkārtām (ĢTE19⁴), kura nestspēja vērtējama kā salīdzinoši augsta.
6. Ar augstu ticamības pakāpi var apgalvot, ka projektējamām ēkām un būvēm varēs pielietot seklas iestrādes pamatus, kas balstīti morēnas māla slānī ĢTE19⁴.
7. Ņemot vērā, ka pētāmās teritorijas ģeoloģisko griezumu veido galvenokārt mālainie nogulumi, kas skaitās ūdens necaurlaidīgi, tad lielā daļā izpētes punktu gruntsūdens netika konstatēts.
8. Urbumos, kuros gruntsūdens konstatēts (Urb.1, Urb.2/CPT2, Urb.4), tas piesaistīts smilšainajām starpkārtām vai lēcām mālainajos nogulumos, tāpēc tā līmenis šajos punktos ir ļoti mainīgs – svārstās dziļumā no 2.2 m līdz 4.5 m no zemes virsmas.
9. Savukārt izpētes punktos Urb.6/CPT6 un Urb.10/CPT10, fiksēts t.s. virsūdens, jeb ūdens līmenis līdz ar esošo zemes virsmu.
10. Atbilstoši LBN 003-15 “Būvklimatoloģija” grunšu normatīvais sasalšanas dziļums, kas iespējams 1 reizi 10 gados, ir 120 cm.

Slodzes uz pamatiem

PAMATU APRĒĶINS

3	30	46	62	78	94	110	126	144	162	178	194	210	230	246	262	278	294	310	326	336
7																				340
6																				339
1	29	45	61	77	93	109	125	143	161	177	193	209	229	245	261	277	293	309	325	335

Reactions

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
1	8:COMBINATIC	10.406	106.262	-28.232	-10.265	0.002	10.167
	9:COMBINATIC	-2.678	36.978	-7.452	-1.739	-0.001	0.069
	10:COMBINAT	30.496	168.317	-41.773	-14.885	0.001	-0.210
	11:COMBINATI	-3.012	61.477	-17.569	-6.366	0.003	15.379
	12:COMBINAT	-22.637	-42.448	13.602	6.424	-0.002	0.232
	13:COMBINAT	20.975	159.255	-41.243	-14.900	0.002	9.070
	14:COMBINAT	9.200	96.900	-22.541	-7.226	-0.001	-0.018
	15:COMBINAT	5.808	107.345	-29.230	-10.638	0.003	15.318
	16:COMBINAT	-22.641	-52.193	15.062	6.538	-0.002	0.231
3	8:COMBINATIC	11.349	116.797	31.171	10.448	-0.002	10.138
	9:COMBINATIC	45.665	205.807	49.787	14.931	-0.002	-0.387
	10:COMBINAT	31.876	183.727	46.072	15.152	-0.001	-0.253
	11:COMBINATI	-2.496	67.219	19.170	6.465	-0.003	15.363
	12:COMBINAT	48.978	200.735	47.093	13.190	-0.003	-0.423
	13:COMBINAT	22.355	174.665	45.543	15.168	-0.003	9.028
	14:COMBINAT	53.239	254.775	62.297	19.202	-0.003	-0.445
	15:COMBINAT	6.756	117.921	32.180	10.822	-0.003	15.289
	16:COMBINAT	49.086	192.293	45.999	13.098	-0.003	-0.428
6	8:COMBINATIC	-15.303	49.228	-15.662	-0.852	0.005	26.488
	9:COMBINATIC	-0.014	79.704	-0.750	-0.585	0.002	0.183
	10:COMBINAT	-0.051	70.382	-23.211	-1.348	0.003	0.474
	11:COMBINATI	-22.921	35.418	-8.925	-0.452	0.005	39.429
	12:COMBINAT	0.011	81.130	13.444	-0.051	0.002	-0.029
	13:COMBINAT	-13.792	70.669	-22.970	-1.280	0.005	24.021
	14:COMBINAT	-0.032	98.097	-9.549	-1.040	0.003	0.347
	15:COMBINAT	-22.937	53.139	-15.867	-0.844	0.006	39.574
	16:COMBINAT	0.008	72.015	12.654	-0.056	0.002	-0.001
7	8:COMBINATIC	-15.300	42.762	18.989	0.929	-0.005	26.465
	9:COMBINATIC	-0.052	11.846	33.812	1.340	-0.002	0.436
	10:COMBINAT	-0.047	60.923	28.077	1.460	-0.003	0.440
	11:COMBINATI	-22.920	31.897	10.736	0.494	-0.005	39.416
	12:COMBINAT	-0.047	-14.477	32.970	1.112	-0.001	0.374
	13:COMBINAT	-13.788	61.210	27.836	1.392	-0.005	23.987
	14:COMBINAT	-0.065	33.386	41.177	1.763	-0.003	0.562
	15:COMBINAT	-22.935	46.649	19.206	0.921	-0.006	39.551
	16:COMBINAT	-0.050	-24.398	34.175	1.126	-0.001	0.398
29	8:COMBINATIC	-0.131	138.292	-6.622	-16.577	-0.000	-0.349
	9:COMBINATIC	-8.213	173.765	5.210	0.908	-0.003	0.040
	10:COMBINAT	5.631	187.514	-9.683	-24.230	-0.001	-0.592
	11:COMBINATI	-4.187	92.492	-3.613	-9.080	-0.000	-0.158
	12:COMBINAT	-16.310	145.701	14.134	17.148	-0.004	0.426
	13:COMBINAT	2.079	195.894	-9.685	-24.238	-0.001	-0.540
	14:COMBINAT	-5.195	227.819	0.964	-8.501	-0.003	-0.189
	15:COMBINAT	-2.238	146.986	-6.650	-16.662	-0.000	-0.331
	16:COMBINAT	-15.204	146.582	13.321	15.167	-0.004	0.418

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
30	8:COMBINATIC	1.219	131.036	0.163	1.174	0.000	-0.050
	9:COMBINATIC	17.148	77.379	5.929	10.721	0.000	-0.478
	10:COMBINAT	7.606	176.900	0.235	1.698	0.000	-0.154
	11:COMBINATI	-3.456	88.535	0.096	0.692	0.000	0.020
	12:COMBINAT	20.437	8.051	8.745	15.013	0.000	-0.622
	13:COMBINAT	4.054	185.280	0.236	1.706	0.000	-0.104
	14:COMBINAT	18.390	136.989	5.426	10.299	0.000	-0.489
	15:COMBINAT	-0.885	139.701	0.167	1.201	0.000	-0.025
	16:COMBINAT	21.720	8.039	8.754	15.076	0.000	-0.623
45	8:COMBINATIC	0.005	186.182	-0.213	-1.552	0.000	-0.035
	9:COMBINATIC	-0.071	186.697	13.168	22.589	0.000	0.518
	10:COMBINAT	0.019	270.581	-0.308	-2.247	0.000	-0.141
	11:COMBINATI	-0.005	111.862	-0.127	-0.930	0.000	0.034
	12:COMBINAT	-0.118	112.635	19.944	35.282	0.000	0.863
	13:COMBINAT	0.012	270.785	-0.309	-2.255	0.000	-0.085
	14:COMBINAT	-0.057	271.249	11.734	19.472	0.000	0.413
	15:COMBINAT	0.001	191.392	-0.219	-1.595	0.000	-0.007
	16:COMBINAT	-0.118	117.000	19.937	35.229	0.000	0.863
46	8:COMBINATIC	0.007	186.188	0.245	1.787	0.000	-0.051
	9:COMBINATIC	0.100	185.059	6.601	15.679	0.000	-0.729
	10:COMBINAT	0.022	270.589	0.355	2.589	0.000	-0.164
	11:COMBINATI	-0.003	111.866	0.145	1.058	0.000	0.025
	12:COMBINAT	0.136	110.173	9.679	21.896	0.000	-0.992
	13:COMBINAT	0.015	270.794	0.356	2.598	0.000	-0.108
	14:COMBINAT	0.098	269.778	6.076	15.101	0.000	-0.718
	15:COMBINAT	0.003	191.398	0.251	1.830	0.000	-0.023
	16:COMBINAT	0.136	114.538	9.690	21.978	0.000	-0.994
61	8:COMBINATIC	0.003	185.529	-0.193	-1.409	0.000	-0.022
	9:COMBINATIC	-0.075	186.058	13.942	28.238	0.000	0.551
	10:COMBINAT	0.016	269.879	-0.281	-2.052	0.000	-0.116
	11:COMBINATI	-0.005	110.745	-0.114	-0.831	0.000	0.038
	12:COMBINAT	-0.123	111.538	21.089	43.639	0.000	0.897
	13:COMBINAT	0.009	269.983	-0.281	-2.053	0.000	-0.064
	14:COMBINAT	-0.062	270.460	12.441	24.630	0.000	0.451
	15:COMBINAT	-0.001	190.399	-0.198	-1.442	0.000	0.004
	16:COMBINAT	-0.123	117.035	21.081	43.580	0.000	0.897
62	8:COMBINATIC	0.005	185.534	0.222	1.624	0.000	-0.034
	9:COMBINATIC	0.099	184.686	7.335	21.039	0.000	-0.724
	10:COMBINAT	0.018	269.887	0.324	2.365	0.000	-0.135
	11:COMBINATI	-0.004	110.748	0.130	0.948	0.000	0.031
	12:COMBINAT	0.138	109.476	10.799	30.071	0.000	-1.004
	13:COMBINAT	0.011	269.991	0.324	2.366	0.000	-0.082
	14:COMBINAT	0.096	269.228	6.725	19.840	0.000	-0.703
	15:COMBINAT	0.001	190.404	0.227	1.657	0.000	-0.008
	16:COMBINAT	0.138	114.973	10.811	30.157	0.000	-1.005

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
77	8:COMBINATIC	0.001	193.716	-0.235	-1.715	0.000	-0.009
	9:COMBINATIC	-0.080	194.205	14.650	33.408	0.000	0.585
	10:COMBINAT	0.013	281.787	-0.341	-2.492	0.000	-0.092
	11:COMBINATI	-0.006	116.054	-0.139	-1.018	0.000	0.042
	12:COMBINAT	-0.128	116.787	22.189	51.667	0.000	0.933
	13:COMBINAT	0.006	281.857	-0.342	-2.496	0.000	-0.043
	14:COMBINAT	-0.067	282.297	13.055	29.116	0.000	0.492
	15:COMBINAT	-0.002	198.979	-0.241	-1.758	0.000	0.016
	16:COMBINAT	-0.128	121.684	22.180	51.601	0.000	0.934
78	8:COMBINATIC	0.002	193.720	0.257	1.879	0.000	-0.018
	9:COMBINATIC	0.099	193.096	8.120	26.767	0.000	-0.722
	10:COMBINAT	0.014	281.793	0.374	2.731	0.000	-0.105
	11:COMBINATI	-0.005	116.057	0.152	1.108	0.000	0.037
	12:COMBINAT	0.139	115.120	11.945	38.439	0.000	-1.018
	13:COMBINAT	0.008	281.863	0.375	2.735	0.000	-0.056
	14:COMBINAT	0.094	281.301	7.451	25.134	0.000	-0.689
	15:COMBINAT	-0.001	198.983	0.263	1.923	0.000	0.007
	16:COMBINAT	0.139	120.017	11.957	38.525	0.000	-1.018
93	8:COMBINATIC	0.001	184.300	-0.196	-1.431	0.000	-0.009
	9:COMBINATIC	-0.065	184.716	15.382	38.745	0.000	0.474
	10:COMBINAT	0.011	268.251	-0.286	-2.087	0.000	-0.084
	11:COMBINATI	-0.005	109.927	-0.115	-0.841	0.000	0.037
	12:COMBINAT	-0.104	110.550	23.251	59.424	0.000	0.762
	13:COMBINAT	0.005	268.255	-0.286	-2.086	0.000	-0.040
	14:COMBINAT	-0.054	268.629	13.734	34.073	0.000	0.395
	15:COMBINAT	-0.002	189.093	-0.200	-1.463	0.000	0.014
	16:COMBINAT	-0.105	115.987	23.243	59.361	0.000	0.764
94	8:COMBINATIC	0.002	184.304	0.215	1.568	0.000	-0.016
	9:COMBINATIC	0.082	183.851	8.771	31.519	0.000	-0.598
	10:COMBINAT	0.013	268.256	0.313	2.288	0.000	-0.094
	11:COMBINATI	-0.005	109.929	0.125	0.916	0.000	0.033
	12:COMBINAT	0.115	109.250	12.959	45.841	0.000	-0.839
	13:COMBINAT	0.007	268.260	0.313	2.286	0.000	-0.050
	14:COMBINAT	0.079	267.853	8.013	29.242	0.000	-0.574
	15:COMBINAT	-0.001	189.096	0.219	1.601	0.000	0.006
	16:COMBINAT	0.115	114.687	12.970	45.921	0.000	-0.839
109	8:COMBINATIC	0.001	191.072	-0.234	-1.710	0.000	-0.008
	9:COMBINATIC	-0.050	191.472	15.871	42.318	0.000	0.365
	10:COMBINAT	0.010	278.075	-0.341	-2.488	0.000	-0.075
	11:COMBINATI	-0.005	114.627	-0.139	-1.014	0.000	0.033
	12:COMBINAT	-0.081	115.227	24.019	65.027	0.000	0.593
	13:COMBINAT	0.005	278.039	-0.341	-2.489	0.000	-0.036
	14:COMBINAT	-0.041	278.398	14.154	37.136	0.000	0.300
	15:COMBINAT	-0.002	196.321	-0.240	-1.752	0.000	0.012
	16:COMBINAT	-0.082	119.579	24.010	64.964	0.000	0.595

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
110	8:COMBINATIC	0.002	191.074	0.247	1.803	0.000	-0.013
	9:COMBINATIC	0.065	190.792	9.330	35.601	0.000	-0.475
	10:COMBINAT	0.011	278.078	0.360	2.625	0.000	-0.083
	11:COMBINATI	-0.004	114.628	0.146	1.066	0.000	0.030
	12:COMBINAT	0.091	114.205	13.770	51.762	0.000	-0.663
	13:COMBINAT	0.006	278.042	0.360	2.626	0.000	-0.044
	14:COMBINAT	0.063	277.788	8.534	33.044	0.000	-0.459
	15:COMBINAT	-0.001	196.323	0.253	1.846	0.000	0.006
	16:COMBINAT	0.091	118.557	13.780	51.835	0.000	-0.661
125	8:COMBINATIC	16.469	184.230	-0.197	-1.447	0.000	-0.016
	9:COMBINATIC	12.699	164.957	16.255	45.123	0.000	0.178
	10:COMBINAT	26.986	275.700	-0.287	-2.114	0.000	-0.073
	11:COMBINATI	8.283	107.059	-0.116	-0.853	0.000	0.021
	12:COMBINAT	2.628	78.149	24.561	69.001	0.000	0.312
	13:COMBINAT	25.091	270.858	-0.287	-2.109	0.000	-0.042
	14:COMBINAT	21.698	253.512	14.520	39.803	0.000	0.132
	15:COMBINAT	16.055	187.345	-0.201	-1.480	0.000	-0.000
	16:COMBINAT	2.511	80.009	24.554	68.949	0.000	0.312
126	8:COMBINATIC	16.754	184.918	0.208	1.531	0.000	-0.020
	9:COMBINATIC	24.757	214.988	9.639	37.881	0.000	-0.284
	10:COMBINAT	27.403	276.706	0.304	2.237	0.000	-0.080
	11:COMBINATI	8.438	107.434	0.122	0.899	0.000	0.019
	12:COMBINAT	20.443	152.540	14.268	55.425	0.000	-0.376
	13:COMBINAT	25.508	271.864	0.303	2.232	0.000	-0.049
	14:COMBINAT	32.710	298.928	8.791	34.948	0.000	-0.286
	15:COMBINAT	16.341	188.035	0.213	1.564	0.000	-0.005
	16:COMBINAT	20.360	154.484	14.277	55.487	0.000	-0.377
143	8:COMBINATIC	-17.057	191.400	-0.233	-1.692	0.000	0.034
	9:COMBINATIC	-29.511	211.241	16.264	45.181	0.000	0.093
	10:COMBINAT	-21.596	270.444	-0.339	-2.455	0.000	0.001
	11:COMBINATI	-12.383	121.423	-0.140	-1.014	0.000	0.050
	12:COMBINAT	-31.065	151.183	24.605	69.295	0.000	0.138
	13:COMBINAT	-23.574	275.273	-0.339	-2.460	0.000	0.031
	14:COMBINAT	-34.783	293.130	14.508	39.726	0.000	0.084
	15:COMBINAT	-18.638	199.958	-0.240	-1.738	0.000	0.050
	16:COMBINAT	-31.094	152.246	24.599	69.246	0.000	0.139
144	8:COMBINATIC	-16.777	190.717	0.246	1.781	0.000	0.029
	9:COMBINATIC	0.102	160.110	9.719	38.416	0.000	-0.096
	10:COMBINAT	-21.186	269.444	0.356	2.585	0.000	-0.005
	11:COMBINATI	-12.231	121.050	0.147	1.063	0.000	0.047
	12:COMBINAT	13.088	75.139	14.357	56.015	0.000	-0.140
	13:COMBINAT	-23.165	274.274	0.357	2.590	0.000	0.025
	14:COMBINAT	-7.974	246.727	8.883	35.561	0.000	-0.088
	15:COMBINAT	-18.357	199.271	0.252	1.828	0.000	0.046
	16:COMBINAT	13.094	76.118	14.365	56.075	0.000	-0.140

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
161	8:COMBINATIC	-0.005	182.093	-0.196	-1.429	0.000	0.034
	9:COMBINATIC	-0.006	182.286	16.394	46.139	0.000	0.047
	10:COMBINAT	-0.000	264.930	-0.285	-2.080	0.000	0.002
	11:COMBINATI	-0.007	108.967	-0.116	-0.844	0.000	0.049
	12:COMBINAT	-0.009	109.258	24.769	70.507	0.000	0.069
	13:COMBINAT	-0.004	264.974	-0.285	-2.081	0.000	0.031
	14:COMBINAT	-0.006	265.148	14.646	40.730	0.000	0.043
	15:COMBINAT	-0.007	186.985	-0.200	-1.463	0.000	0.050
	16:COMBINAT	-0.010	114.045	24.762	70.449	0.000	0.070
162	8:COMBINATIC	-0.004	182.095	0.206	1.507	0.000	0.030
	9:COMBINATIC	0.007	181.777	9.774	38.844	0.000	-0.049
	10:COMBINAT	0.000	264.933	0.301	2.194	0.000	-0.004
	11:COMBINATI	-0.006	108.968	0.122	0.887	0.000	0.047
	12:COMBINAT	0.010	108.492	14.473	56.892	0.000	-0.071
	13:COMBINAT	-0.004	264.976	0.301	2.195	0.000	0.026
	14:COMBINAT	0.006	264.691	8.912	35.798	0.000	-0.045
	15:COMBINAT	-0.006	186.987	0.211	1.541	0.000	0.046
	16:COMBINAT	0.010	113.280	14.482	56.959	0.000	-0.071
177	8:COMBINATIC	-0.005	189.744	-0.233	-1.704	0.000	0.033
	9:COMBINATIC	-0.000	190.006	16.384	46.061	0.000	0.001
	10:COMBINAT	-0.000	276.090	-0.340	-2.480	0.000	0.002
	11:COMBINATI	-0.007	113.810	-0.138	-1.009	0.000	0.049
	12:COMBINAT	-0.000	114.203	24.788	70.640	0.000	0.001
	13:COMBINAT	-0.004	276.091	-0.340	-2.481	0.000	0.031
	14:COMBINAT	-0.000	276.327	14.616	40.508	0.000	0.002
	15:COMBINAT	-0.007	194.951	-0.239	-1.745	0.000	0.049
	16:COMBINAT	-0.000	118.631	24.779	70.574	0.000	0.001
178	8:COMBINATIC	-0.004	189.746	0.242	1.764	0.000	0.031
	9:COMBINATIC	0.000	189.506	9.837	39.300	0.000	-0.002
	10:COMBINAT	0.000	276.092	0.352	2.568	0.000	-0.002
	11:COMBINATI	-0.007	113.811	0.143	1.041	0.000	0.047
	12:COMBINAT	0.000	113.452	14.535	57.346	0.000	-0.001
	13:COMBINAT	-0.004	276.094	0.352	2.569	0.000	0.027
	14:COMBINAT	0.000	275.878	8.987	36.352	0.000	-0.002
	15:COMBINAT	-0.006	194.953	0.247	1.805	0.000	0.047
	16:COMBINAT	0.000	117.879	14.545	57.419	0.000	-0.001
193	8:COMBINATIC	-0.004	182.005	-0.197	-1.441	0.000	0.032
	9:COMBINATIC	0.006	182.287	16.392	46.122	0.000	-0.044
	10:COMBINAT	-0.000	264.931	-0.288	-2.101	0.000	0.002
	11:COMBINATI	-0.006	108.836	-0.116	-0.849	0.000	0.047
	12:COMBINAT	0.009	109.258	24.768	70.496	0.000	-0.067
	13:COMBINAT	-0.004	264.895	-0.288	-2.100	0.000	0.030
	14:COMBINAT	0.005	265.148	14.643	40.707	0.000	-0.039
	15:COMBINAT	-0.006	186.853	-0.202	-1.474	0.000	0.047
	16:COMBINAT	0.009	114.045	24.760	70.437	0.000	-0.067

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
194	8:COMBINATIC	-0.004	182.006	0.204	1.491	0.000	0.030
	9:COMBINATIC	-0.006	181.777	9.772	38.827	0.000	0.045
	10:COMBINAT	0.000	264.932	0.298	2.173	0.000	-0.001
	11:COMBINATI	-0.006	108.836	0.120	0.876	0.000	0.045
	12:COMBINAT	-0.009	108.492	14.471	56.881	0.000	0.068
	13:COMBINAT	-0.004	264.896	0.298	2.172	0.000	0.026
	14:COMBINAT	-0.006	264.690	8.908	35.775	0.000	0.040
	15:COMBINAT	-0.006	186.854	0.209	1.524	0.000	0.045
	16:COMBINAT	-0.009	113.280	14.480	56.947	0.000	0.068
209	8:COMBINATIC	12.937	181.165	-0.236	-1.711	0.000	0.030
	9:COMBINATIC	29.326	210.767	16.259	45.150	0.000	-0.089
	10:COMBINAT	21.354	269.824	-0.344	-2.495	0.000	0.003
	11:COMBINATI	6.361	106.473	-0.140	-1.017	0.000	0.044
	12:COMBINAT	30.945	150.876	24.603	69.275	0.000	-0.136
	13:COMBINAT	19.773	265.823	-0.344	-2.492	0.000	0.029
	14:COMBINAT	34.524	292.465	14.502	39.683	0.000	-0.079
	15:COMBINAT	12.540	184.814	-0.242	-1.754	0.000	0.045
	16:COMBINAT	30.955	151.889	24.595	69.223	0.000	-0.136
210	8:COMBINATIC	13.005	181.380	0.241	1.746	0.000	0.029
	9:COMBINATIC	0.110	160.661	9.715	38.385	0.000	0.092
	10:COMBINAT	21.454	270.138	0.351	2.546	0.000	0.000
	11:COMBINATI	6.398	106.590	0.143	1.036	0.000	0.043
	12:COMBINAT	-12.944	75.512	14.354	55.995	0.000	0.138
	13:COMBINAT	19.873	266.137	0.351	2.543	0.000	0.026
	14:COMBINAT	8.268	247.490	8.877	35.519	0.000	0.083
	15:COMBINAT	12.609	185.029	0.247	1.789	0.000	0.043
	16:COMBINAT	-12.927	76.551	14.362	56.052	0.000	0.137
229	8:COMBINATIC	-20.570	194.478	-0.201	-1.479	0.000	0.081
	9:COMBINATIC	-12.907	165.416	16.251	45.097	0.000	-0.175
	10:COMBINAT	-27.257	276.301	-0.292	-2.148	0.000	0.077
	11:COMBINATI	-14.259	122.040	-0.120	-0.879	0.000	0.074
	12:COMBINAT	-2.763	78.446	24.559	68.984	0.000	-0.310
	13:COMBINAT	-28.886	280.313	-0.292	-2.151	0.000	0.102
	14:COMBINAT	-21.989	254.157	14.515	39.766	0.000	-0.128
	15:COMBINAT	-22.116	202.514	-0.206	-1.516	0.000	0.096
	16:COMBINAT	-2.667	80.354	24.551	68.929	0.000	-0.309
230	8:COMBINATIC	-20.463	194.266	0.206	1.515	0.000	0.080
	9:COMBINATIC	-24.516	214.420	9.635	37.854	0.000	0.280
	10:COMBINAT	-27.100	275.990	0.299	2.202	0.000	0.076
	11:COMBINATI	-14.200	121.924	0.122	0.899	0.000	0.073
	12:COMBINAT	-20.280	152.156	14.266	55.407	0.000	0.374
	13:COMBINAT	-28.729	280.002	0.300	2.205	0.000	0.100
	14:COMBINAT	-32.377	298.141	8.786	34.910	0.000	0.281
	15:COMBINAT	-22.008	202.301	0.211	1.553	0.000	0.095
	16:COMBINAT	-20.171	154.037	14.274	55.467	0.000	0.375

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
245	8:COMBINATIC	-0.012	191.124	-0.238	-1.741	0.000	0.088
	9:COMBINATIC	0.050	191.442	15.866	42.281	0.000	-0.362
	10:COMBINAT	-0.011	278.037	-0.347	-2.535	0.000	0.079
	11:COMBINATI	-0.011	114.730	-0.141	-1.031	0.000	0.084
	12:COMBINAT	0.081	115.207	24.015	65.003	0.000	-0.591
	13:COMBINAT	-0.015	278.071	-0.347	-2.535	0.000	0.109
	14:COMBINAT	0.041	278.357	14.147	37.085	0.000	-0.296
	15:COMBINAT	-0.015	196.411	-0.244	-1.783	0.000	0.106
	16:COMBINAT	0.081	119.555	24.006	64.937	0.000	-0.593
246	8:COMBINATIC	-0.012	191.125	0.242	1.769	0.000	0.087
	9:COMBINATIC	-0.065	190.760	9.325	35.564	0.000	0.471
	10:COMBINAT	-0.011	278.038	0.353	2.576	0.000	0.078
	11:COMBINATI	-0.011	114.730	0.143	1.046	0.000	0.083
	12:COMBINAT	-0.090	114.184	13.767	51.737	0.000	0.660
	13:COMBINAT	-0.015	278.072	0.353	2.577	0.000	0.108
	14:COMBINAT	-0.062	277.744	8.527	32.991	0.000	0.454
	15:COMBINAT	-0.014	196.412	0.248	1.812	0.000	0.106
	16:COMBINAT	-0.090	118.532	13.776	51.807	0.000	0.659
261	8:COMBINATIC	-0.013	184.283	-0.204	-1.491	0.000	0.096
	9:COMBINATIC	0.064	184.700	15.373	38.680	0.000	-0.470
	10:COMBINAT	-0.012	268.230	-0.297	-2.171	0.000	0.089
	11:COMBINATI	-0.012	109.914	-0.120	-0.875	0.000	0.091
	12:COMBINAT	0.104	110.539	23.245	59.381	0.000	-0.759
	13:COMBINAT	-0.017	268.232	-0.297	-2.172	0.000	0.121
	14:COMBINAT	0.053	268.607	13.722	33.982	0.000	-0.390
	15:COMBINAT	-0.016	189.074	-0.209	-1.524	0.000	0.116
	16:COMBINAT	0.104	115.974	23.236	59.311	0.000	-0.760
262	8:COMBINATIC	-0.013	184.284	0.207	1.513	0.000	0.096
	9:COMBINATIC	-0.081	183.832	8.762	31.453	0.000	0.593
	10:COMBINAT	-0.012	268.231	0.302	2.203	0.000	0.088
	11:COMBINATI	-0.012	109.915	0.122	0.887	0.000	0.090
	12:COMBINAT	-0.115	109.237	12.953	45.798	0.000	0.836
	13:COMBINAT	-0.016	268.233	0.302	2.204	0.000	0.120
	14:COMBINAT	-0.078	267.826	8.001	29.150	0.000	0.567
	15:COMBINAT	-0.016	189.074	0.212	1.546	0.000	0.116
	16:COMBINAT	-0.114	114.672	12.963	45.870	0.000	0.835
277	8:COMBINATIC	-0.014	193.614	-0.244	-1.785	0.000	0.105
	9:COMBINATIC	0.079	194.224	14.639	33.323	0.000	-0.580
	10:COMBINAT	-0.013	281.813	-0.356	-2.602	0.000	0.098
	11:COMBINATI	-0.013	115.884	-0.144	-1.050	0.000	0.098
	12:COMBINAT	0.127	116.799	22.181	51.611	0.000	-0.930
	13:COMBINAT	-0.018	281.775	-0.356	-2.600	0.000	0.132
	14:COMBINAT	0.066	282.324	13.039	28.996	0.000	-0.485
	15:COMBINAT	-0.017	198.817	-0.250	-1.825	0.000	0.126
	16:COMBINAT	0.127	121.697	22.171	51.535	0.000	-0.931

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
278	8:COMBINATIC	-0.014	193.614	0.246	1.798	0.000	0.105
	9:COMBINATIC	-0.098	193.111	8.108	26.681	0.000	0.716
	10:COMBINAT	-0.013	281.814	0.359	2.622	0.000	0.098
	11:COMBINATI	-0.013	115.884	0.145	1.058	0.000	0.098
	12:COMBINAT	-0.139	115.129	11.937	38.382	0.000	1.014
	13:COMBINAT	-0.018	281.776	0.359	2.620	0.000	0.131
	14:COMBINAT	-0.093	281.323	7.434	25.015	0.000	0.681
	15:COMBINAT	-0.017	198.817	0.252	1.838	0.000	0.126
	16:COMBINAT	-0.139	120.028	11.948	38.460	0.000	1.013
293	8:COMBINATIC	-0.017	185.544	-0.207	-1.514	0.000	0.124
	9:COMBINATIC	0.075	186.277	13.926	28.117	0.000	-0.544
	10:COMBINAT	-0.017	270.161	-0.302	-2.207	0.000	0.125
	11:COMBINATI	-0.015	110.584	-0.122	-0.887	0.000	0.110
	12:COMBINAT	0.122	111.683	21.078	43.559	0.000	-0.892
	13:COMBINAT	-0.022	270.106	-0.302	-2.206	0.000	0.159
	14:COMBINAT	0.061	270.765	12.418	24.462	0.000	-0.442
	15:COMBINAT	-0.020	190.327	-0.212	-1.547	0.000	0.146
	16:COMBINAT	0.122	117.203	21.068	43.487	0.000	-0.893
294	8:COMBINATIC	-0.017	185.544	0.208	1.522	0.000	0.124
	9:COMBINATIC	-0.098	184.899	7.319	20.924	0.000	0.716
	10:COMBINAT	-0.017	270.161	0.304	2.218	0.000	0.124
	11:COMBINATI	-0.015	110.584	0.122	0.892	0.000	0.110
	12:COMBINAT	-0.137	109.616	10.788	29.995	0.000	0.999
	13:COMBINAT	-0.022	270.106	0.304	2.218	0.000	0.159
	14:COMBINAT	-0.095	269.525	6.704	19.680	0.000	0.692
	15:COMBINAT	-0.020	190.327	0.213	1.554	0.000	0.146
	16:COMBINAT	-0.137	115.137	10.799	30.069	0.000	0.998
309	8:COMBINATIC	-0.020	186.504	-0.228	-1.666	0.000	0.144
	9:COMBINATIC	0.070	187.473	13.148	22.443	0.000	-0.510
	10:COMBINAT	-0.021	271.574	-0.333	-2.433	0.000	0.151
	11:COMBINATI	-0.017	111.697	-0.134	-0.978	0.000	0.123
	12:COMBINAT	0.117	113.151	19.931	35.185	0.000	-0.858
	13:COMBINAT	-0.026	271.457	-0.333	-2.429	0.000	0.187
	14:COMBINAT	0.055	272.330	11.706	19.269	0.000	-0.401
	15:COMBINAT	-0.023	191.538	-0.233	-1.702	0.000	0.167
	16:COMBINAT	0.117	117.599	19.921	35.116	0.000	-0.857
310	8:COMBINATIC	-0.020	186.504	0.228	1.668	0.000	0.143
	9:COMBINATIC	-0.098	185.829	6.584	15.559	0.000	0.718
	10:COMBINAT	-0.021	271.574	0.334	2.436	0.000	0.151
	11:COMBINATI	-0.017	111.697	0.134	0.979	0.000	0.123
	12:COMBINAT	-0.135	110.684	9.668	21.816	0.000	0.985
	13:COMBINAT	-0.026	271.457	0.333	2.432	0.000	0.186
	14:COMBINAT	-0.096	270.850	6.053	14.933	0.000	0.704
	15:COMBINAT	-0.023	191.538	0.233	1.704	0.000	0.166
	16:COMBINAT	-0.135	115.132	9.677	21.885	0.000	0.986

Reactions Cont...

Node	L/C	Horizontal	Vertical	Horizontal	Moment		
		FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
325	8:COMBINATIC	-6.971	117.908	-0.148	-1.071	0.000	0.131
	9:COMBINATIC	7.292	167.644	12.639	18.695	0.000	-0.273
	10:COMBINAT	-6.758	179.662	-0.217	-1.568	0.000	0.141
	11:COMBINATI	-5.725	67.040	-0.086	-0.623	0.000	0.111
	12:COMBINAT	15.670	141.643	19.095	29.025	0.000	-0.496
	13:COMBINAT	-8.904	174.528	-0.216	-1.563	0.000	0.172
	14:COMBINAT	3.932	219.290	11.292	16.226	0.000	-0.192
	15:COMBINAT	-8.030	119.072	-0.151	-1.092	0.000	0.152
	16:COMBINAT	14.459	141.867	19.087	28.974	0.000	-0.496
326	8:COMBINATIC	-6.939	117.973	0.148	1.070	0.000	0.131
	9:COMBINATIC	-16.446	79.624	5.915	10.618	0.000	0.467
	10:COMBINAT	-6.712	179.758	0.217	1.567	0.000	0.140
	11:COMBINATI	-5.707	67.075	0.086	0.623	0.000	0.111
	12:COMBINAT	-19.967	9.551	8.736	14.945	0.000	0.615
	13:COMBINAT	-8.858	174.624	0.216	1.562	0.000	0.171
	14:COMBINAT	-17.414	140.109	5.406	10.155	0.000	0.474
	15:COMBINAT	-7.998	119.138	0.151	1.091	0.000	0.151
	16:COMBINAT	-21.174	9.783	8.743	14.996	0.000	0.615
335	8:COMBINATIC	-27.125	129.268	-31.197	-10.309	0.000	5.325
	9:COMBINATIC	2.212	44.756	-9.790	-1.820	0.001	-0.048
	10:COMBINAT	-31.115	178.262	-44.745	-14.988	-0.001	0.236
	11:COMBINATI	-21.665	89.495	-20.074	-6.365	0.001	7.841
	12:COMBINAT	22.340	-37.273	12.037	6.369	0.002	-0.219
	13:COMBINAT	-36.261	183.787	-45.055	-14.979	-0.000	4.882
	14:COMBINAT	-9.858	107.726	-25.789	-7.339	0.001	0.047
	15:COMBINAT	-30.678	138.482	-32.668	-10.669	0.001	7.910
	16:COMBINAT	22.296	-46.178	13.242	6.475	0.002	-0.215
336	8:COMBINATIC	-27.103	129.214	31.201	10.310	-0.000	5.324
	9:COMBINATIC	-45.043	201.466	48.755	14.802	0.002	0.373
	10:COMBINAT	-31.083	178.182	44.751	14.988	0.001	0.236
	11:COMBINATI	-21.653	89.465	20.076	6.365	-0.001	7.841
	12:COMBINAT	-48.563	197.843	46.407	13.103	0.003	0.415
	13:COMBINAT	-36.229	183.707	45.061	14.980	0.000	4.882
	14:COMBINAT	-52.374	248.734	60.860	19.023	0.003	0.426
	15:COMBINAT	-30.656	138.428	32.672	10.670	-0.001	7.910
	16:COMBINAT	-48.604	188.931	45.202	12.997	0.003	0.418
339	8:COMBINATIC	-7.603	44.860	-18.405	-1.094	-0.001	12.789
	9:COMBINATIC	0.013	75.275	-3.417	-0.727	-0.003	-0.173
	10:COMBINAT	0.049	64.747	-26.601	-1.529	-0.003	-0.461
	11:COMBINATI	-11.436	32.546	-10.824	-0.697	0.001	19.478
	12:COMBINAT	-0.012	78.168	11.658	-0.147	-0.002	0.036
	13:COMBINAT	-6.824	64.569	-26.743	-1.567	-0.002	11.333
	14:COMBINAT	0.031	91.943	-13.254	-1.237	-0.003	-0.332
	15:COMBINAT	-11.421	48.499	-18.831	-1.145	-0.000	19.337
	16:COMBINAT	-0.009	68.571	10.578	-0.167	-0.002	0.009

Reactions Cont...

		Horizontal	Vertical	Horizontal	Moment		
Node	L/C	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
340	8:COMBINATIC	-7.603	44.851	18.410	1.094	0.001	12.788
	9:COMBINATIC	0.054	14.832	32.664	1.395	0.002	-0.454
	10:COMBINAT	0.049	64.733	26.608	1.529	0.003	-0.462
	11:COMBINATI	-11.436	32.541	10.827	0.697	-0.001	19.477
	12:COMBINAT	0.049	-12.487	32.208	1.149	0.001	-0.385
	13:COMBINAT	-6.824	64.556	26.750	1.568	0.002	11.332
	14:COMBINAT	0.067	37.539	39.579	1.839	0.003	-0.585
	15:COMBINAT	-11.421	48.489	18.836	1.145	0.000	19.336
	16:COMBINAT	0.052	-22.084	33.288	1.169	0.001	-0.412

Pamata SP-1 aprēķins

Pamatnes grunsu apreķina pretestība

$$b := 3 \quad \text{m} \quad b_0 := 1 \quad \text{m} \quad h := 0.5 \quad \text{m}$$

$$d := 1.8 \quad \text{m} \quad d_0 := 2 \quad \text{m} \quad a := 1.5 \quad \text{m}$$

$$k_1 := 0.05$$

$$R_0 := 100 \quad \text{kPa}$$

$$\underset{\text{ww}}{R} := R_0 \cdot \left[1 + k_1 \cdot \left(\frac{b - b_0}{b_0} \right) \right] \cdot \left(\frac{d + d_0}{2 \cdot d_0} \right) \quad R = 104.5 \quad \frac{\text{kN}}{\text{m}^2}$$

Spiediens uz pamata pedu

$$N_{Edtot} := 300 \quad \text{kN}$$

$$A_p := b \cdot a \quad A_p = 4.5 \quad \text{m}^2$$

$$P_{vid} := \frac{N_{Edtot}}{A_p} \quad P_{vid} = 66.667 \quad \text{kN/m}^2$$

$$W_y := \frac{a \cdot b^2}{6} \quad W_y = 2.25 \quad \text{m}^3 \quad W_z := \frac{b \cdot a^2}{6} \quad W_z = 1.125$$

$$M_{Edytot} := 71 \quad \text{kNm} \quad M_{Edztot} := 1 \quad \text{kNm}$$

$$P_{max} := \frac{N_{Edtot}}{A_p} + \frac{M_{Edytot}}{W_y} + \frac{M_{Edztot}}{W_z}$$

$$P_{max} = 99.111 \quad \text{kN/m}^2 \quad \blacksquare < \blacksquare \quad R \cdot 1.2 = 125.4 \quad \text{kN/m}^2$$

$$P_{min} := \frac{N_{Edtot}}{A_p} - \frac{M_{Edytot}}{W_y} - \frac{M_{Edztot}}{W_z}$$

$$P_{min} = 34.222 \quad \text{kN/m}^2$$

Nosacījums izpildas, nestspeja pietiekosa

Aprekins uz caurspiesanu

$$N_{ed} := N_{edtot}$$

$$dx := 43 \quad \text{cm}$$

$$dy := 45 \quad \text{cm}$$

$$c := 0.5 \quad \text{m}$$

$$f_{cd} := 17 \quad \text{kN/m}^2$$

$$f_{yd} := 435 \quad \text{kN/m}^2$$

$$f_{ck} := 30 \quad \text{kN/m}^2$$

$$M_{ed} := N_{ed} \cdot \frac{b}{8} \cdot \left(1 - \frac{c}{b}\right)$$

$$M_{ed} = 93.75 \quad \text{kNm}$$

$$\mu_{eds} := \frac{\frac{M_{ed}}{1000}}{b \cdot \left(\frac{dx}{100}\right)^2 \cdot f_{cd}}$$

$$\mu_{eds} = 0.0099418$$

$$\omega := 0.011$$

$$A_s := \omega \cdot (b \cdot 100) \cdot dx \cdot \frac{f_{cd}}{f_{yd}} = 5.546 \quad \text{cm}^2$$

Stiegrojums diam.16 solis 200 mm

$$A_s := 16.08 \quad \text{cm}^2$$

$$\beta := 1.1$$

$$V_{ed} := N_{ed}$$

$$u_i := 5.21 \quad \text{m}$$

$$v_{ed} := \beta \cdot \frac{V_{ed}}{u_i \cdot \frac{dx}{100}} = 147.302 \quad \text{kN/m}^2$$

$$C_{rds} := \frac{0.15}{1.5} = 0.1$$

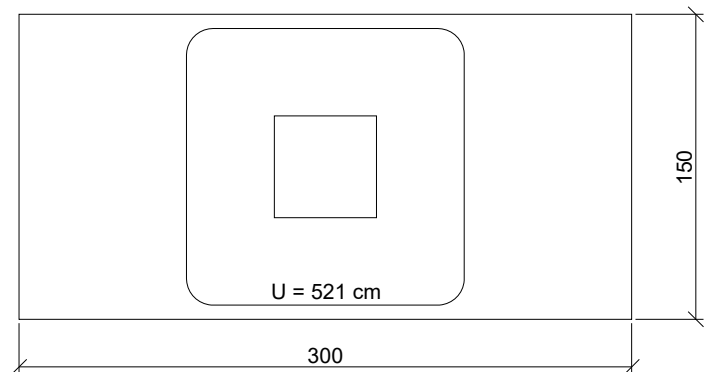
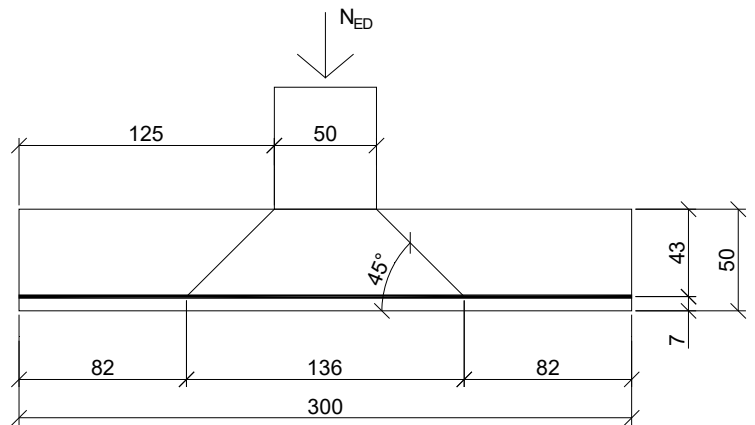
$$k := 1 + \sqrt{\frac{200}{dx \cdot 10}} = 1.682$$

$$\rho_1 := \frac{A_s}{(b \cdot 100) \cdot dx} = 0.00125$$

$$v_{rdc} := C_{rds} \cdot k \cdot (100 \cdot \rho_1 \cdot f_{ck})^{\frac{1}{3}} = 0.261 \quad \text{MN/m}^2$$

$$v_{rdc} \cdot 1000 = 261.074 \quad \text{kN/m}^2 \quad \blacksquare > \blacksquare \quad v_{ed} = 147.302 \quad \text{kN/m}^2$$

Nosacījums izpildas, noturība uz caurspiesanu nodrošināta



Pamata SP-2 aprēķins

Pamatnes grunsu apreķina pretestība

$$b := 2 \quad \text{m} \quad b_0 := 1 \quad \text{m} \quad h := 0.5 \quad \text{m}$$

$$d := 1.8 \quad \text{m} \quad d_0 := 2 \quad \text{m} \quad a := 2 \quad \text{m}$$

$$k_1 := 0.05$$

$$R_0 := 100 \quad \text{kPa}$$

$$\underline{\underline{R}} := R_0 \cdot \left[1 + k_1 \cdot \left(\frac{b - b_0}{b_0} \right) \right] \cdot \left(\frac{d + d_0}{2 \cdot d_0} \right) \quad R = 99.75 \quad \frac{\text{kN}}{\text{m}^2}$$

Spiediens uz pamata pedu

$$N_{Edtot} := 255 \quad \text{kN}$$

$$A_p := b \cdot a \quad A_p = 4 \quad \text{m}^2$$

$$P_{vid} := \frac{N_{Edtot}}{A_p} \quad P_{vid} = 63.75 \quad \text{kN/m}^2$$

$$W_y := \frac{a \cdot b^2}{6} \quad W_y = 1.333 \quad \text{m}^3 \quad W_z := \frac{b \cdot a^2}{6} \quad W_z = 1.333$$

$$M_{Edytot} := 20 \quad \text{kNm} \quad M_{Edztot} := 16 \quad \text{kNm}$$

$$P_{max} := \frac{N_{Edtot}}{A_p} + \frac{M_{Edytot}}{W_y} + \frac{M_{Edztot}}{W_z}$$

$$P_{max} = 90.75 \quad \text{kN/m}^2 \quad \blacksquare < \blacksquare \quad R \cdot 1.2 = 119.7 \quad \text{kN/m}^2$$

$$P_{min} := \frac{N_{Edtot}}{A_p} - \frac{M_{Edytot}}{W_y} - \frac{M_{Edztot}}{W_z}$$

$$P_{min} = 36.75 \quad \text{kN/m}^2$$

Nosacījums izpildas, nestspēja pietiekosa

Aprekins uz caurspiesanu

$$N_{ed} := N_{Ed_{tot}}$$

$$d_x := 43 \quad \text{cm}$$

$$d_y := 45 \quad \text{cm}$$

$$c := 0.5 \quad \text{m}$$

$$f_{cd} := 17 \quad \text{kN/m}^2$$

$$f_{yd} := 435 \quad \text{kN/m}^2$$

$$f_{ck} := 30 \quad \text{kN/m}^2$$

$$M_{ed} := N_{ed} \cdot \frac{b}{8} \cdot \left(1 - \frac{c}{b}\right)$$

$$M_{ed} = 47.813 \quad \text{kNm}$$

$$\mu_{eds} := \frac{\frac{M_{ed}}{1000}}{b \cdot \left(\frac{d_x}{100}\right)^2 \cdot f_{cd}}$$

$$\mu_{eds} = 0.0076055$$

$$\omega := 0.01$$

$$A_s := \omega \cdot (b \cdot 100) \cdot d_x \cdot \frac{f_{cd}}{f_{yd}} = 3.361 \quad \text{cm}^2$$

Stiegrojums diam.16 solis 200 mm

$$A_s := 20.1 \quad \text{cm}^2$$

$$\beta := 1.1$$

$$V_{ed} := N_{ed}$$

$$u_i := 5.21 \quad \text{m}$$

$$v_{ed} := \beta \cdot \frac{V_{ed}}{u_i \cdot \frac{d_x}{100}} = 125.206 \quad \text{kN/m}^2$$

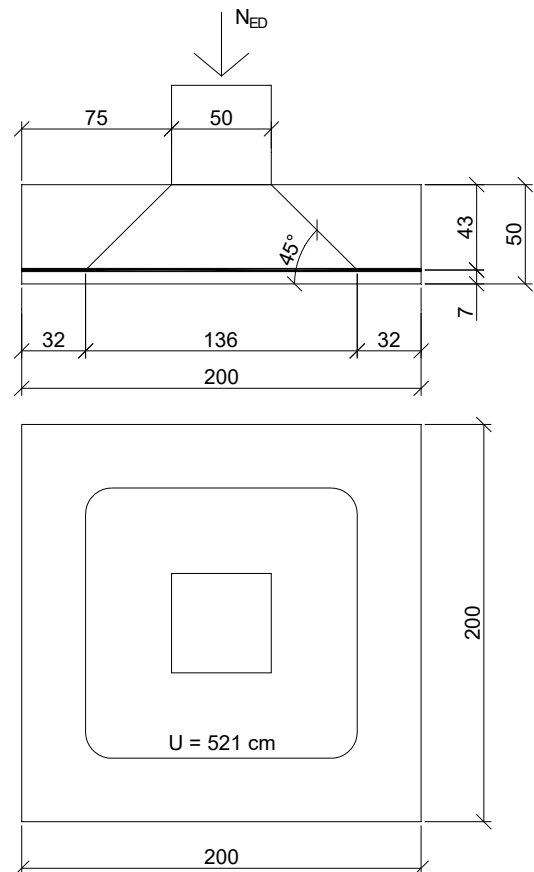
$$C_{rds} := \frac{0.15}{1.5} = 0.1$$

$$k := 1 + \sqrt{\frac{200}{d_x \cdot 10}} = 1.682$$

$$\rho_1 := \frac{A_s}{(b \cdot 100) \cdot d_x} = 0.00234$$

$$v_{rdc} := C_{rds} \cdot k \cdot (100 \cdot \rho_1 \cdot f_{ck})^{\frac{1}{3}} = 0.322 \quad \text{MN/m}^2$$

$$v_{rdc} \cdot 1000 = 321.932 \quad \text{kN/m}^2 \quad \blacksquare > \blacksquare \quad v_{ed} = 125.206 \quad \text{kN/m}^2$$



Nosacījums izpildas, noturība uz caurspiesanu nodrošināta