

Eurocode 3-2005 STEEL SECTION CHECK (Summary for Combo and Station)
Units : KN, m, C

Frame : 1001 X Mid: 31,500 Combo: ELU1 Design Type: Brace
Length: 0,751 Y Mid: 19,375 Shape: IPE330 Frame Type: DCM-MRF
Loc : 0,751 Z Mid: 3,443 Class: Class 1 Rolled : Yes

Country=CEN Default Combination=Eq. 6.10
Reliability=Class 2
Interaction=Method 1 (Annex A) MultiResponse=Envelopes P-Delta Done?
No
Consider Torsion? No

GammaM0=1,05 GammaM1=1,10 GammaM2=1,25
An/Ag=1,00 RLLF=1,000 PLLF=0,750 D/C Lim=0,950
Aeff=0,006 eNy=0,000 eNz=0,000
A=0,006 Iyy=1,177E-04 iyy=0,137 Wel,yy=7,133E-04 Weff,yy=7,133E-04
It=0,000 Izz=7,880E-06 izz=0,035 Wel,zz=9,850E-05 Weff,zz=9,850E-05
Iw=0,000 Iyz=0,000 h=0,330 Wpl,yy=8,040E-04 Av,z=0,004
E=210000000,0 fy=275000,000 fu=430000,000 Wpl,zz=1,540E-04 Av,y=0,003

STRESS CHECK FORCES & MOMENTS

Location	Ned	Med,yy	Med,zz	Ved,z	Ved,y	Ted
0,751	-109,415	73,622	2,973	-2,109	0,755	-0,016

PMM DEMAND/CAPACITY RATIO (Governing Equation EC3 6.3.3(4)-6.61)

D/C Ratio: 0,567 = 0,122 + 0,391 + 0,053 < 0,950 OK
= Ned/(Chi_y NRk/GammaM1) + kyy (My,Ed+NEd eNy)/(Chi_LT

My,Rk/GammaM1) + kyz (Mz,Ed+NEd eNz)/(Mz,Rk/GammaM1) (EC3 6.3.3(4)-6.61)

AXIAL FORCE DESIGN

	Ned Force	Nc,Rd Capacity	Nt,Rd Capacity
Axial	-109,415	1639,524	1639,524

	Npl,Rd	Nu,Rd	Ncr,T	Ncr,TF	An/Ag
	1639,524	1938,096	37705,572	37705,572	1,000

	Curve	Alpha	Ncr	LambdaBar	Phi	Chi	Nb,Rd
Major (y-y)	a	0,210	1333,728	1,136	1,244	0,572	894,499
MajorB (y-y)	a	0,210	1333,728	1,136	1,244	0,572	894,499
Minor (z-z)	b	0,340	28930,909	0,244	0,537	0,984	1540,556
MinorB (z-z)	b	0,340	28930,909	0,244	0,537	0,984	1540,556
Torsional TF	b	0,340	37705,572	0,214	0,525	0,995	1557,415

MOMENT DESIGN

	Med Moment	Med,span Moment	Mc,Rd Capacity	Mv,Rd Capacity	Mn,Rd Capacity	Mb,Rd Capacity
Major (y-y)	73,622	73,622	210,571	210,571	210,571	200,089
Minor (z-z)	2,973	2,973	40,333	40,333	40,333	

	Curve	AlphaLT	LambdaBarLT	PhiLT	ChiLT	C1	Mcr
LTB	b	0,340	0,213	0,525	0,995	1,044	4882,916

	kyy	kyz	kzy	kzz
Factors	1,064	0,687	0,619	1,565

SHEAR DESIGN

	Ved Force	Ted Torsion	Vc,Rd Capacity	Stress Ratio	Status Check
Major (z)	10,801	0,016	465,767	0,023	OK
Minor (y)	0,834	0,016	598,416	0,001	OK

Vpl,Rd Eta LambdabarW

SAP2000

Project _____
Job Number _____
Engineer _____

Reduction	465,767	1,200	0,513
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BRACE MAXIMUM AXIAL LOADS

	P Comp	P Tens
Axial	N/C	46,700