

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

Frame : 921 X Mid: 31,950 Combo: ELU3 Design Type: Brace
Length: 2,585 Y Mid: 40,800 Shape: D219,1x10 Frame Type: DCM-MRF
Loc : 0,000 Z Mid: 1,125 Class: Class 1 Rolled : No

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=0,007 eNy=0,000 eNz=0,000
A=0,007 Iyy=3,598E-05 iyy=0,074 Wel,yy=3,285E-04 Weff,yy=3,285E-04
It=7,197E-05 Izz=3,598E-05 izz=0,074 Wel,zz=3,285E-04 Weff,zz=3,285E-04
Iw=0,000 Iyz=0,000 h=0,219 Wpl,yy=4,376E-04 Av,z=0,004
E=210000000,0 fy=275000,000 fu=430000,000 Wpl,zz=4,376E-04 Av,y=0,004

STRESS CHECK FORCES & MOMENTS

Location	Ned	Med,yy	Med,zz	Ved,z	Ved,y	Ted
0,000	17,380	-41,039	29,573	21,150	-15,999	3,833

PMM DEMAND/CAPACITY RATIO (Governing Equation EC3 6.2.1(7))
D/C Ratio: 0,452 = 0,010 + sqrt[(0,358)^2 + (0,258)^2] < 0,950 OK
= (Ned/NRd) + sqrt[(My,Ed/My,Rd)^2 + (Mz,Ed/Mz,Rd)^2] (EC3 6.2.1(7))

AXIAL FORCE DESIGN

	Ned Force	Nc,Rd Capacity	Nt,Rd Capacity
Axial	17,380	1720,471	1720,471

	Npl,Rd	Nu,Rd	Ncr,T	Ncr,TF	An/Ag
	1720,471	2033,784	530578,750	11160,771	1,000

	Curve	Alpha	Ncr	LambdaBar	Phi	Chi	Nb,Rd
Major (y-y)	c	0,490	11160,771	0,402	0,630	0,896	1471,625
MajorB (y-y)	c	0,490	11160,771	0,402	0,630	0,896	1471,625
Minor (z-z)	c	0,490	11160,771	0,402	0,630	0,896	1471,625
MinorB (z-z)	c	0,490	11160,771	0,402	0,630	0,896	1471,625
Torsional TF	c	0,490	11160,771	0,402	0,630	0,896	1471,625

MOMENT DESIGN

	Med Moment	Med,span Moment	Mc,Rd Capacity	Mv,Rd Capacity	Mn,Rd Capacity	Mb,Rd Capacity
Major (y-y)	-41,039	-41,039	114,599	114,599	114,599	109,390
Minor (z-z)	29,573	29,573	114,599	114,599	114,599	

	Curve	AlphaLT	LambdaBarLT	PhiLT	ChiLT	C1	Mcr
LTB	d	0,760	0,105	0,469	1,000	1,367	11009,058

	kyy	kzy	kzz
Factors	1,000	0,600	1,000

SHEAR DESIGN

	Ved Force	Ted Torsion	Vc,Rd Capacity	Stress Ratio	Status Check
Major (z)	23,359	3,833	632,363	0,037	OK
Minor (y)	15,999	3,833	632,363	0,025	OK

	Vpl,Rd	Eta	LambdabarW
Reduction	632,363	1,200	0,000

SAP2000

Project _____
Job Number _____
Engineer _____

BRACE MAXIMUM AXIAL LOADS

	P	P
	Comp	Tens
Axial	0,000	N/C