

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

Frame : 87 X Mid: 14,625 Combo: ELU2 Design Type: Beam
Length: 0,750 Y Mid: 1,750 Shape: VIGA+Y Frame Type: DCM-MRF
Loc : 0,750 Z Mid: 4,500 Class: Class 2 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=0,004 eNy=0,000 eNz=0,000
A=0,004 Iyy=1,922E-04 iyy=0,233 Wel,yy=4,323E-04 Weff,yy=4,323E-04
It=3,292E-04 Izz=2,613E-04 izz=0,272 Wel,zz=6,064E-04 Weff,zz=6,064E-04
Iw=0,000 Iyz=0,000 h=0,701 Wpl,yy=6,233E-04 Av,z=0,003
E=210000000,0 fy=275000,000 fu=430000,000 Wpl,zz=7,201E-04 Av,y=0,002

Iyz=0,000 Imax=2,613E-04 imax=0,272 Wel,zz,maj=6,064E-04
Rot= 90 deg Imin=1,922E-04 imin=0,233 Wel,zz,min=4,323E-04

STRESS CHECK FORCES & MOMENTS

Location	Ned	Med,yy	Med,zz	Ved,z	Ved,y	Ted
0,750	-264,688	38,606	-15,776	-14,778	4,450	-7,088

PMM DEMAND/CAPACITY RATIO (Governing Equation EC3 6.2.1(7))
D/C Ratio: 0,606 = 0,286 + 0,236 + 0,084 < 0,950 OK
= (NEd/NRd) + (My,Ed/My,Rd) + (Mz,Ed/Mz,Rd) (EC3 6.2.1(7))

AXIAL FORCE DESIGN

	Ned Force	Nc,Rd Capacity	Nt,Rd Capacity	Npl,Rd	Nu,Rd	Ncr,T	Ncr,TF	An/Ag
Axial	-264,688	925,479	925,479	925,479	1094,017	207196,441	19667,362	1,000

	Curve	Alpha	Ncr	LambdaBar	Phi	Chi	Nb,Rd
Major (y-y)	c	0,490	19667,362	0,222	0,530	0,989	873,386
MajorB (y-y)	c	0,490	19667,362	0,222	0,530	0,989	873,386
Minor (z-z)	c	0,490	962833,337	0,032	0,459	1,000	883,412
MinorB (z-z)	c	0,490	962833,337	0,032	0,459	1,000	883,412
Torsional TF	c	0,490	19667,362	0,222	0,530	0,989	873,386

MOMENT DESIGN

	Med Moment	Med,span Moment	Mc,Rd Capacity	Mv,Rd Capacity	Mn,Rd Capacity	Mb,Rd Capacity
Major (y-y)	38,606	38,606	163,255	163,255	163,255	108,076
Minor (z-z)	-15,776	-15,776	188,592	188,592	188,592	

	Curve	AlphaLT	LambdaBarLT	PhiLT	ChiLT	C1	Mcr
LTB	d	0,760	0,031	0,436	1,000	1,080	172802,148

	kyy	kyz	kzy	kzz
Factors	0,827	0,477	0,536	0,880

SHEAR DESIGN

	Ved Force	Ted Torsion	Vc,Rd Capacity	Stress Ratio	Status Check
Major (z)	14,778	16,972	312,284	0,047	OK
Minor (y)	4,450	16,972	384,069	0,012	OK

SAP2000

Project _____
Job Number _____
Engineer _____

Reduction	Vpl,Rd	Eta	LambdabarW
	312,284	1,200	0,000

CONNECTION SHEAR FORCES FOR BEAMS

	VMajor Left	VMajor Right
Major (V2)	15,490	14,778