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

Frame :	1192	X Mid:	103500,	Combo:	DSTL2
Length:	7810,25	Y Mid:	0,	Shape:	HEA400
Loc :	7810,25	Z Mid:	3000,	Class:	Class 2

Design Type: Brace
Frame Type: DCH-MRF
Rolled : Yes

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

GammaM0=1,	GammaM1=1,	GammaM2=1,25		
An/Ag=1,	RLLF=1,	PLLF=0,75	D/C Lim=0,95	
Aeff=15900,	eNy=0,	eNz=0,		
A=15900,	Iyy=450700000,	iyy=168,362	Wel,yy=2311282,	Weff,yy=2311282,
It=1930000,	Izz=85640000,	izz=73,39	Wel,zz=570933,3	Weff,zz=570933,3
Iw=2,947E+12	Iyz=0,	h=390,	Wpl,yy=2562000,	Av,y=12028,
E=210000,	fy=440,	fu=550,	Wpl,zz=873000,	Av,z=5735,

DESIGN MESSAGES
Error: Section overstressed

STRESS CHECK FORCES & MOMENTS

Location	Ned	Med,yy	Med,zz	Ved,z	Ved,y	Ted
7810,25	-2044552,11	71268344,1	3899815,781	-14542,964	-872,311	1008,85

PMM DEMAND/CAPACITY RATIO (Governing Equation EC3 6.3.3(4)-6.62)
D/C Ratio: 0,961 = 0,901 + 0,05 + 0,009 > 0,95 Overstress
= NEd/(Chi_z NRk/GammaM1) + kzy (My,Ed+NEd eNy)/(Chi_LT My,Rk/GammaM1)
+ kzz (Mz,Ed+NEd eNz)/(Mz,Rk/GammaM1) (EC3 6.3.3(4)-6.62)

AXIAL FORCE DESIGN

	Ned Force	Nc,Rd Capacity	Nt,Rd Capacity
Axial	-2044552,11	6996000,	6296400,

Npl,Rd	Nu,Rd	Ncr,T	Ncr,TF	An/Ag
6996000,	6296400,	7589580,226	7589577,14	1,

	Curve	Alpha	Ncr	LambdaBar	Phi	Chi	Nb,Rd
Major (y-y)	a	0,21	15313581,11	0,676	0,778	0,859	6007915,799
MajorB(y-y)	a	0,21	15313581,11	0,676	0,778	0,859	6007915,799
Minor (z-z)	b	0,34	2909818,252	1,551	1,932	0,324	2268608,058
MinorB(z-z)	b	0,34	2909818,252	1,551	1,932	0,324	2268608,058
Torsional TF	b	0,34	7589577,14	0,96	1,09	0,623	4355077,752

MOMENT DESIGN

	Med Moment	Med,span Moment	Mc,Rd Capacity	Mv,Rd Capacity	Mn,Rd Capacity	Mb,Rd Capacity
Major (y-y)	71268344,1	71268344,1	1127280000,	1127280000,	929348680,	565313454,
Minor (z-z)	3899815,781	3899815,781	384120000,	384120000,	384056383,	

	Curve	AlphaLT	LambdaBarLT	PhiLT	ChiLT	Iw	Mcr
LTB	a	0,21	1,246	1,387	0,501	2,947E+12	725724794,

Factors	kw	C1	C2	C3
	1,	1,132	0,459	0,525

za	zs	zg	zz	zj
195,	0,	195,	0,	0,

	kyy	kyz	kzy	kzz
Factors	0,465	0,543	0,399	0,905

	Ved Force	Vpl.Rd Capacity	Ved/Vpl.Rd Ratio	rho Factor
Major (z)	14542,964	1456884,99	0,01	1,
Minor (y)	872,311	3055520,952	2,855E-04	1,

SHEAR DESIGN

	Ved Force	Ted Torsion	Vc,Rd Capacity	Stress Ratio	Status Check
Major (z)	14542,964	1008,85	1456884,99	0,01	OK
Minor (y)	872,311	1008,85	3055520,952	0,	OK

	Vpl,Rd Capacity	Eta Factor	Lambdabar Ratio	Chi Factor
Minor (y)	1456884,99	1,2	0,507	1,2
Major (y)	3055520,952	1,2	0,	1,

BRACE MAXIMUM AXIAL LOADS

	P Comp	P Tens
Axial	-2044552,11	0,

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

Frame :	1191	X Mid:	101000,	Combo:	DSTL2
Length:	6000,	Y Mid:	0,	Shape:	HEA400
Loc :	6000,	Z Mid:	3000,	Class:	Class 1

Design Type: Column
Frame Type: DCH-MRF
Rolled : Yes

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

GammaM0=1,	GammaM1=1,	GammaM2=1,25		
An/Ag=1,	RLLF=1,	PLLF=0,75	D/C Lim=0,95	
Aeff=15900,	eNy=0,	eNz=0,		
A=15900,	Iyy=450700000,	iyy=168,362	Wel,yy=2311282,	Weff,yy=2311282,
It=1930000,	Izz=85640000,	izz=73,39	Wel,zz=570933,3	Weff,zz=570933,3
Iw=2,947E+12	Iyz=0,	h=390,	Wpl,yy=2562000,	Av,y=12028,
E=210000,	fy=440,	fu=550,	Wpl,zz=873000,	Av,z=5735,

STRESS CHECK FORCES & MOMENTS

Location	Ned	Med,yy	Med,zz	Ved,z	Ved,y	Ted
6000,	1543364,512	-130353631,	4558570,562	44936,817	-1231,516	4676,232

PMM DEMAND/CAPACITY RATIO (Governing Equation EC3 6.2.3(1)-6.5)
D/C Ratio: 0,245 = 0,245 < 0,95 OK
= (NEd/Nt,Rd) (EC3 6.2.3(1)-6.5)

AXIAL FORCE DESIGN

	Ned Force	Nc,Rd Capacity	Nt,Rd Capacity
Axial	1543364,512	6996000,	6296400,

Npl,Rd	Nu,Rd	Ncr,T	Ncr,TF	An/Ag
6996000,	6296400,	8392205,033	8392201,62	1,

	Curve	Alpha	Ncr	LambdaBar	Phi	Chi	Nb,Rd
Major (y-y)	a	0,21	23972385,28	0,54	0,682	0,911	6375468,651
MajorB(y-y)	a	0,21	83203606,8	0,29	0,551	0,98	6854857,404
Minor (z-z)	b	0,34	3696624,205	1,376	1,646	0,392	2743374,115
MinorB(z-z)	b	0,34	11351221,83	0,785	0,908	0,734	5132444,865
Torsional TF	b	0,34	8392201,62	0,913	1,038	0,653	4566963,282

MOMENT DESIGN

	Med Moment	Med,span Moment	Mc,Rd Capacity	Mv,Rd Capacity	Mn,Rd Capacity	Mb,Rd Capacity
Major (y-y)	-130353631,	-130353631,	1127280000,	1127280000,	1023417738,	991462485,
Minor (z-z)	4558570,562	4558570,562	384120000,	384120000,	384120000,	

	Curve	AlphaLT	LambdaBarLT	PhiLT	ChiLT	Iw	Mcr
LTB	a	0,21	0,627	0,741	0,88	2,947E+12	2868675135,

	kw	C1	C2	C3
Factors	1,	2,711	0,	0,106

za	zs	zg	zz	zj
195,	0,	195,	0,	0,

	kyy	kyz	kzy	kzz
Factors	0,4	0,24	1,	0,4

Ved Force	Vpl.Rd Capacity	Ved/Vpl.Rd Ratio	rho Factor

Major (z)	44936,817	1456884,99	0,031	1,
Minor (y)	1231,516	3055520,952	4,030E-04	1,

SHEAR DESIGN

	Ved Force	Ted Torsion	Vc,Rd Capacity	Stress Ratio	Status Check
Major (z)	44936,817	4676,232	1456884,99	0,031	OK
Minor (y)	1231,516	4676,232	3055520,952	0,	OK

	Vpl,Rd Capacity	Eta Factor	Lambdabar Ratio	Chi Factor
Minor (y)	1456884,99	1,2	0,507	1,2
Major (y)	3055520,952	1,2	0,	1,

CONTINUITY PLATE, DOUBLER PLATE AND BEAM/COLUMN RATIOS

	Cont Pl Area	Dbl Pl Thick	BC Ratio Major	BC Ratio Minor
Joint Design	0,	0,	N/C	N/C