

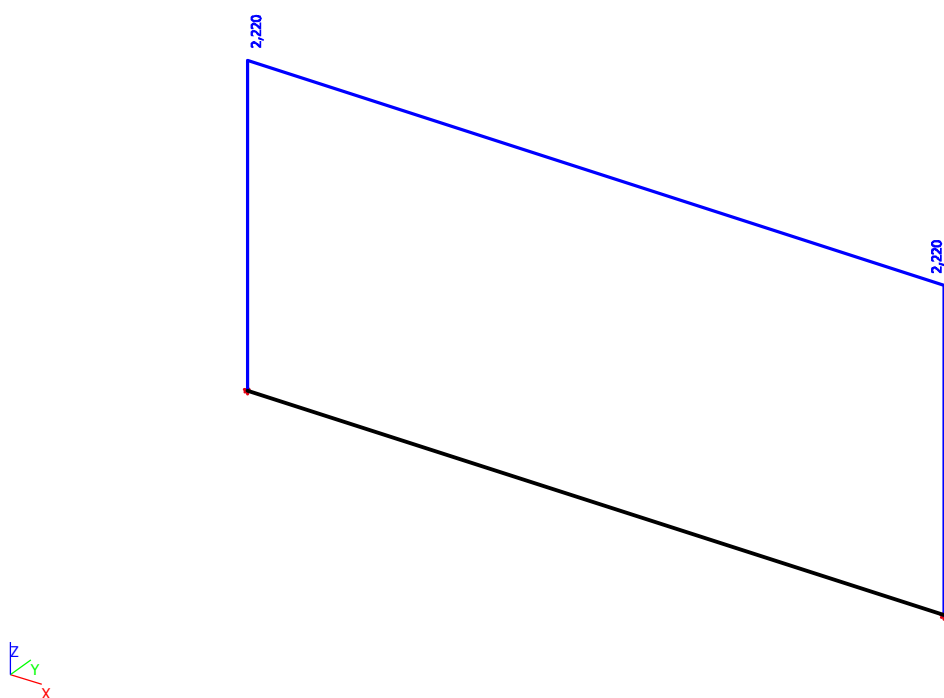
PRILOGA C: Kontrola nosilnosti in stabilnosti tlačnega elementa med legama

1. Steel slenderness

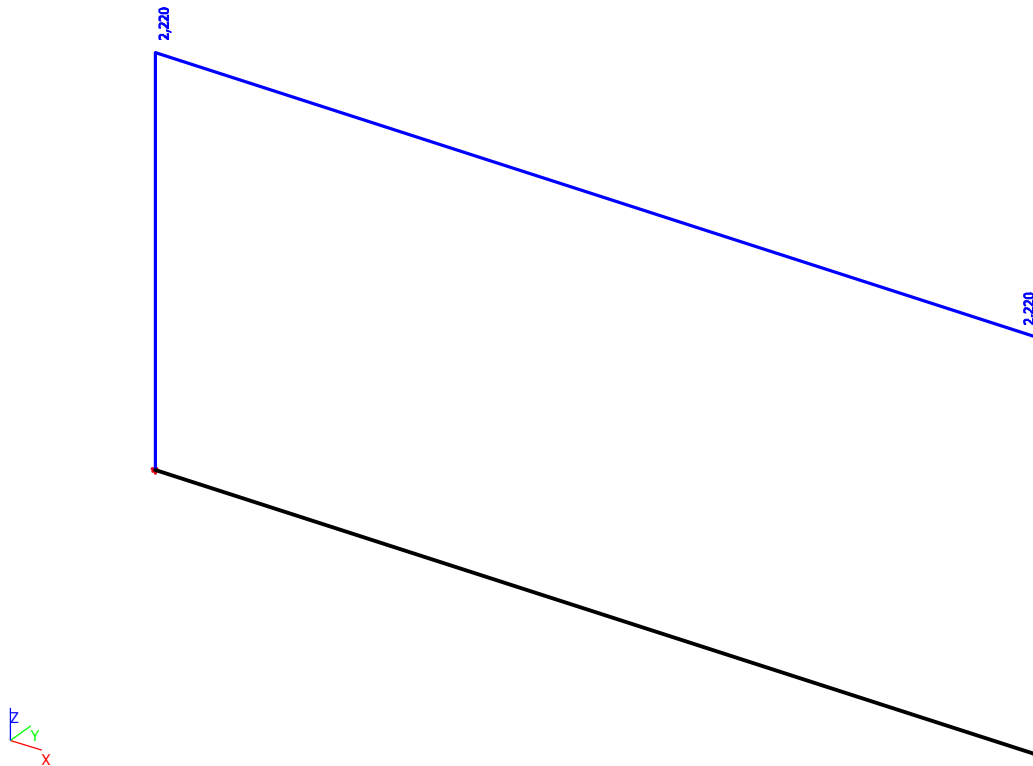
Linear calculation

Member	CS Name	Part	Sway y	Ly [m]	ky [-]	ly [m]	Lam y [-]	lyz [m]	I LTB [m]
			Sway z	Lz [m]	kz [-]	lz [m]	Lam z [-]		
B1	CS2	1	Yes	2,220	1,00	2,220	205,01	2,220	2,220
			No	2,220	1,00	2,220	205,00		

2. ly



3. Iz



4. Result classes

4.1. Result classes - RC1

Name	List
RC1	CO1 - Envelope - ultimate

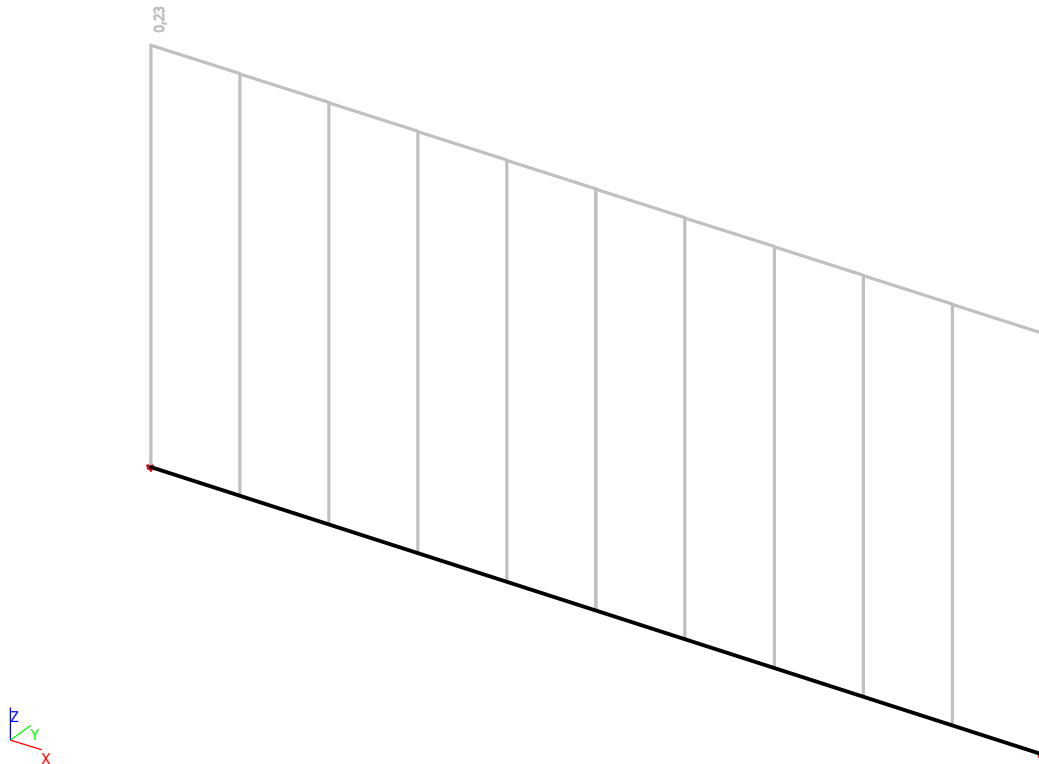
4.1.1. Check of steel

Linear calculation, Extreme : Member

Selection : All

Class : RC1

Member	css	mat	Case	dx [m]	un.check [-]	sec.check [-]	stab.check [-]
B1	CS2 - CHS33.7/3.2	S 235	CO1/1	0,000	0,23	0,04	0,23



Linear calculation, Extreme : Cross-section
 Selection : All
 Class : RC1

Member B1	2,220 m	CHS33.7/3.2	S 235	CO1/1	0,23 -
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Partial safety factors	
Gamma M0 for resistance of cross-sections	1,00
Gamma M1 for resistance to instability	1,00
Gamma M2 for resistance of net sections	1,25

Material		
Yield strength fy	235,0	MPa
Ultimate strength fu	360,0	MPa
Fabrication	Rolled	

....SECTION CHECK:....

Classification for cross-section design

According to EN 1993-1-1 article 5.5.2

Classification for Tubular Sections

According to EN 1993-1-1 Table 5.2 Sheet 3

Maximum width-to-thickness ratio	10,53
Class 1 Limit	50,00
Class 2 Limit	70,00
Class 3 Limit	90,00

=> Section classified as Class 1 for cross-section design

The critical check is on position 0.000 m

Internal forces	Calculated	Unit
N _{Ed}	-2,65	kN
V _{y,Ed}	0,00	kN
V _{z,Ed}	0,04	kN
T _{Ed}	0,00	kNm
M _{y,Ed}	0,00	kNm
M _{z,Ed}	0,00	kNm

Compression check

According to EN 1993-1-1 article 6.2.4 and formula (6.9)

A	3,0700e-04	m ²
N _{c,Rd}	72,14	kN
Unity check	0,04	-

Shear check for Vz

According to EN 1993-1-1 article 6.2.6 and formula (6.17)

Eta	1,20	
Av	1,9544e-04	m ²
Vpl,z,Rd	26,52	kN
Unity check	0,00	-

The member satisfies the section check.

.....STABILITY CHECK:....**Classification for member buckling design**

Decisive position for stability classification: 0,000 m

Classification for Tubular Sections

According to EN 1993-1-1 Table 5.2 Sheet 3

Maximum width-to-thickness ratio	10,53
Class 1 Limit	50,00
Class 2 Limit	70,00
Class 3 Limit	90,00

=> Section classified as Class 1 for member buckling design

Flexural Buckling Check

According to EN 1993-1-1 article 6.3.1.1 and formula (6.46)

Buckling parameters	yy	zz	
Sway type	sway	non-sway	
System length L	2,220	2,220	m
Buckling factor k	1,00	1,00	
Buckling length Lcr	2,220	2,220	m
Critical Euler load Ncr	15,14	15,14	kN
Slenderness Lambda	205,01	205,00	
Relative slenderness Lambda,rel	2,18	2,18	
Limit slenderness Lambda,rel,0	0,20	0,20	
Buckling curve	a	a	
Imperfection Alpha	0,21	0,21	
Reduction factor Chi	0,19	0,19	
Buckling resistance Nb,Rd	13,67	13,67	kN

Warning: Slenderness 205,01 is larger than the limit value of 200,00.

Flexural Buckling verification		
Cross-section area A	3,0700e-04	m ²
Buckling resistance Nb,Rd	13,67	kN
Unity check	0,19	-

Compression and bending check

According to article EN 1993-1-1 : 6.3.3. and formula (6.61), (6.62)

Interaction Method 1

Table of values		
kyy	1.136	
kyz	0.785	
kzy	0.744	
kzz	1.189	
Delta My	0.00	kNm
Delta Mz	0.00	kNm
A	3.0700e-04	m ²
Wy	2.9406e-06	m ³
Wz	2.9406e-06	m ³
NRk	72.14	kN
My,Rk	0.69	kNm
Mz,Rk	0.69	kNm
My,Ed	0.02	kNm
Mz,Ed	0.00	kNm
Interaction Method 1		
Mcr0	9.39	kNm
reduced slenderness 0	0.27	
Psi y	1.000	
Psi z	1.000	
Cmy,0	1.005	
Cmz,0	1.042	
Cmy	1.005	
Cmz	1.042	
CmLT	1.000	
muy	0.853	

Table of values		
muz	0.853	
wy	1.374	
wz	1.374	
npl	0.037	
aLT	0.000	
bLT	0.000	
cLT	0.000	
dLT	0.000	
eLT	0.000	
Cyy	0.915	
Cyz	0.824	
Czy	0.838	
Czz	0.907	

Unity check (6.61) = $0.19 + 0.03 + 0.00 = 0.23$

Unity check (6.62) = $0.19 + 0.02 + 0.00 = 0.22$

The member satisfies the stability check.