

STX+

Stability Analysis for Steel

STX+ allows you to verify the stability of single-piece members with fork supports in accordance with EN 1993 (equivalent member method).

Optionally, you can put out either the elastic cross-section verifications on the stress level or the analysis of the plastic internal limit forces.

Systematic central compression, uniaxial bending with or without axial force and biaxial bending are the definable actions.

The stability verifications are limited to double-symmetrical cross sections.

Available standards

- DIN EN 1993
- ÖNORM EN 1993
- BS EN 1993
- EN 1993

Properties

- Basic Parameters
- System
- Loads
- Output

Stresses in longitudinal Direction

Pressure normal force	Nd	[kN]	100.0
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Stresses about y-axis

Moment at bar origin	Myd,1	[kNm]	-112.50
Moment at bar end	Myd,2	[kNm]	-195.00
Moment in field	Myd,F	[kNm]	250.00
...in distance	x0	[m]	2.50
Linear curve			<input type="checkbox"/>
Action impact		Shear Center	▼

Stresses about z-axis

Moment at bar origin	Mzd,1	[kNm]	0.00
Moment at bar end	Mzd,2	[kNm]	0.00
Moment in field	Mzd,F	[kNm]	0.00
...in distance	x0	[m]	2.50

Remarks

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Properties

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Steel Material

Type structural steel

Grade S235

Member Properties

Length l [m] 5.00

Cross-section HEA 320

Default buckling length

Support at Member Start

Displacement in y-direction uy rigid

Displacement in z-direction uz rigid

Rotation about z-axis phiy [kNm/rad] 5.0

Rotation about z-axis phiz [kNm/rad] 2.0

Support at Member End

Displacement in y-direction uy rigid

Displacement in z-direction uz rigid

Rotation about z-axis phiy [kNm/rad] 0.0

Rotation about z-axis phiz [kNm/rad] 0.0

Remarks

System remarks Bemerkungen zum ...

Comparative Statement

Name	stability	Cross section
HEA 100	74.96	14.89
HEA 260	1.50	1.50
HEA 280	1.22	1.30
HEA 300	0.96	1.11
HEA 340	0.72	0.88
HEA 320	0.82	0.99
HEA 450	0.42	0.54
HEA 650	0.24	0.32
HEA 1000	0.12	0.17

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