

Simulation Report 500 kg jevn belastning IPE 240 med 2 oppstøttinger

Company

Author

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Software Used

Solid Edge ST(106.00.00.100 x64)

Femap (11.01)

Solver Used

NX Nastran (8.5)

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1. Introduction

2. Model Information

Document Part9

3. Study Properties

Study Property	Value
Study name	Static Study 1
Study Type	Linear Static
Mesh Type	Tetrahedral
Iterative Solver	On
NX Nastran Geometry Check	On
NX Nastran command line	
NX Nastran study options	
NX Nastran generated options	
NX Nastran default options	
Surface results only option	On

4. Study Geometry

4.1 Solids

Solid Name	Material	Mass	Volume	Weight
Part9	Steel, structural	0,000 kg	0,000 mm ³	0,000 mN

5. Material Properties

5.1 Steel, structural

Property	Value
Density	7833,000 kg/m ³
Coef. of Thermal Exp.	0,0000 /C
Thermal Conductivity	0,032 kW/m-C
Specific Heat	481,000 J/kg-C

Modulus of Elasticity	199947,953 MegaPa
Poisson's Ratio	0,290
Yield Stress	262,001 MegaPa
Ultimate Stress	358,527 MegaPa
Elongation %	0,000

6. Override Properties

7. Loads

Load Name	Load Type	Load Value	Load Distribution	Load Direction	Load Direction Option
Gravity 1	Gravity	981 cm/s ²		(0,00, 0,00, - 1,00)	Along a vector
Force 1	Force	5e+006 mN	Per Entity	(0,00, 0,00, - 1,00)	Along a vector

8. Constraints

Constraint Name	Constraint Type	Degrees of Freedom
Fixed 1	Fixed	FREE DOF: None

9. Mesh Information

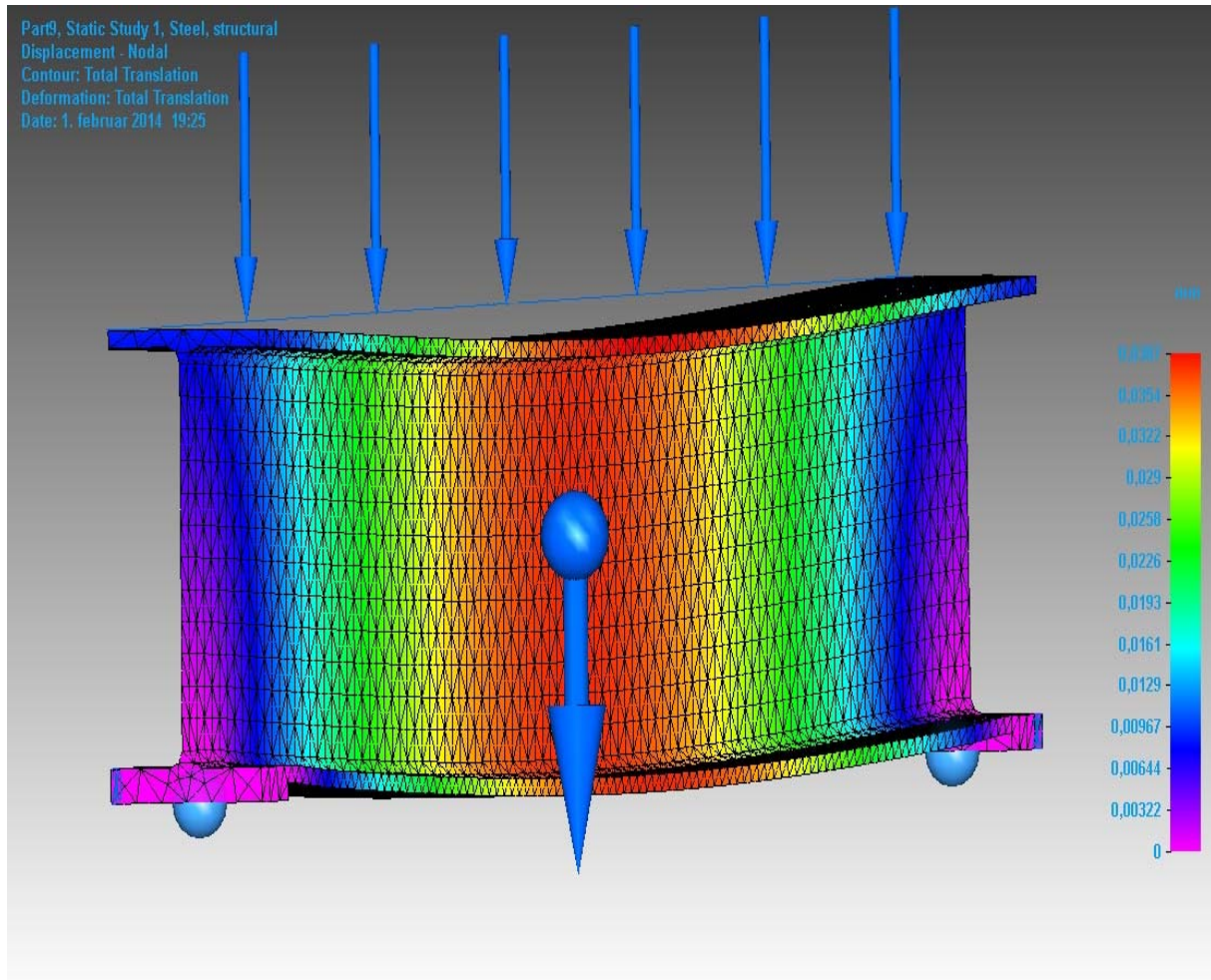
Mesh type	Tetrahedral
Total number of bodies meshed	1
Total number of elements	17 133
Total number of nodes	34 918
Subjective mesh size (1-10)	10

10. Results

10.1 Displacement Results

Result component: Total Translation

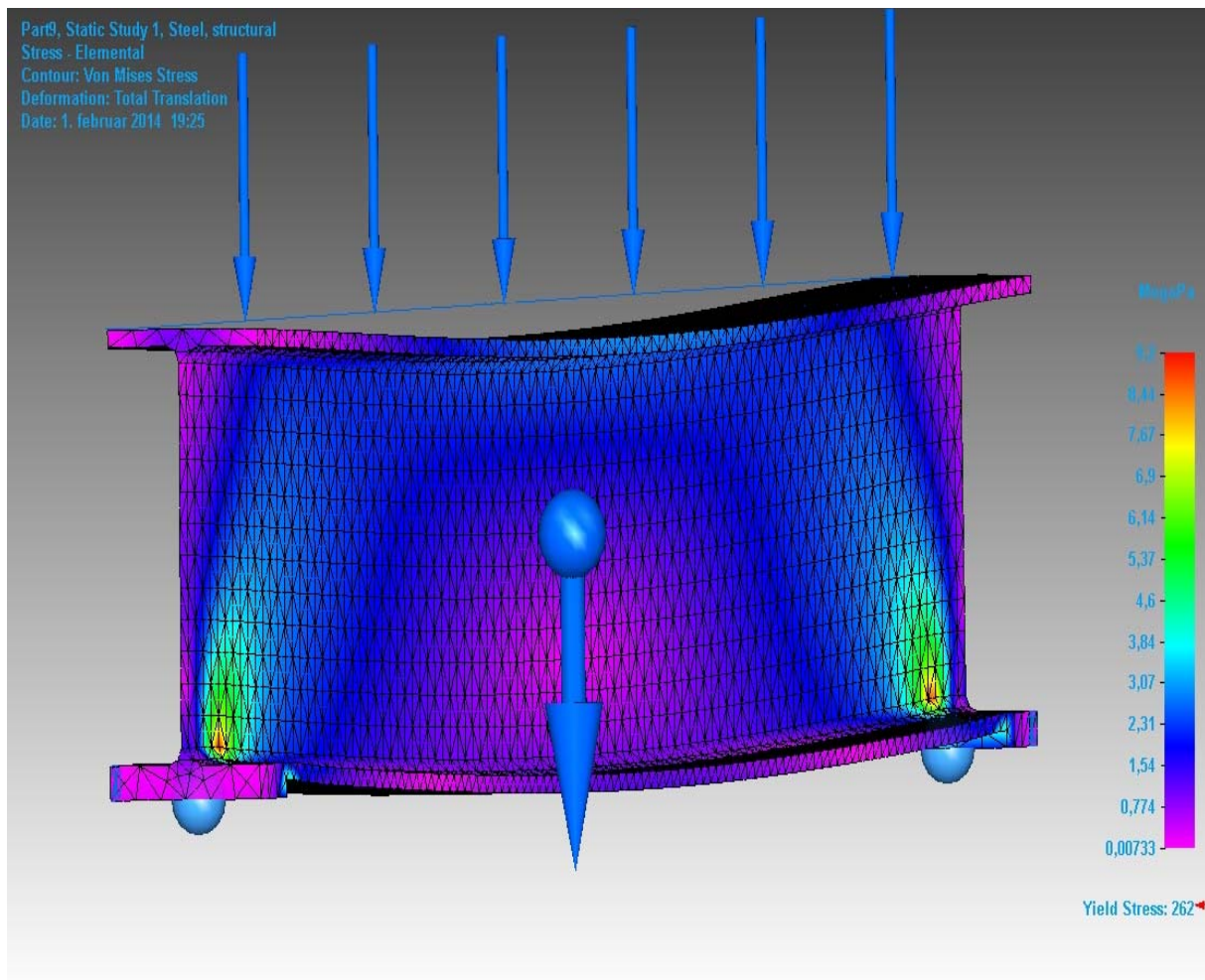
Extent	Value	X	Y	Z
Minimum	0 mm	32,887 mm	933,122 mm	-246,541 mm
Maximum	0,0387 mm	12,887 mm	9,615 mm	16,459 mm



Total Translation

10.2 Stress Results

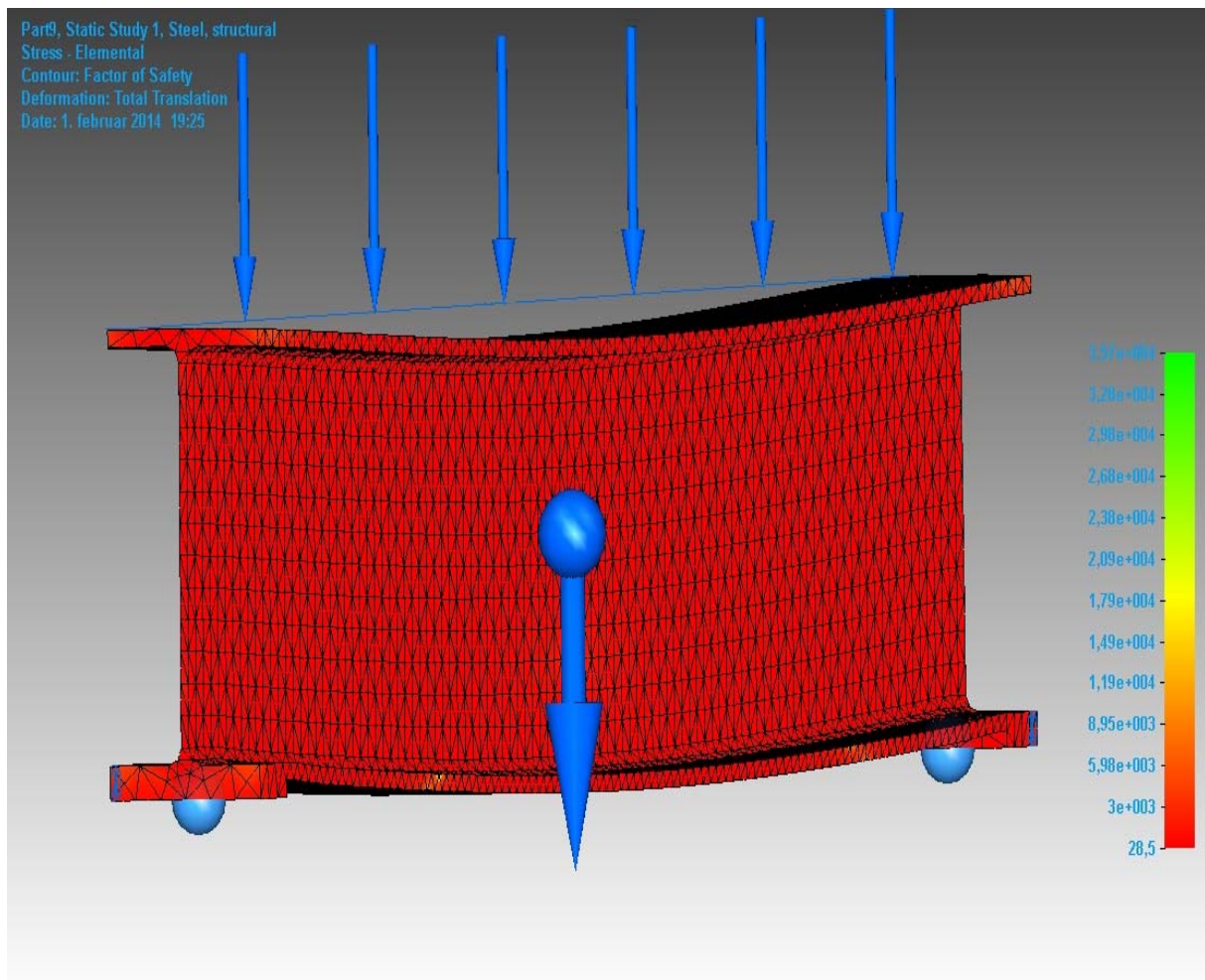
Result component: Von Mises				
Extent	Value	X	Y	Z
Minimum	0,00733 MegaPa	12,887 mm	538,462 mm	-226,541 mm
Maximum	9,2 MegaPa	69,887 mm	923,077 mm	-216,541 mm



Von Mises

10.3 Factor of Safety Results

Result Component: Factor of Safety				
Extent	Value	X	Y	Z
Minimum	28,5	69,887 mm	923,077 mm	-216,541 mm
Maximum	3,57e+004	12,887 mm	538,462 mm	-226,541 mm



Factor of Safety

11. Optimizations

12. Conclusion

13. Disclaimer

Important Information

This report should not be used to solely judge a design idea's suitability to a given set of environmental conditions. Siemens makes every effort to ensure that its products provide as much

guidance and help as possible. However this does not replace good engineering judgment, which is always the responsibility of our users. A qualitative approach to engineering should ensure that the results of this evaluation are evaluated in conjunction with the practical experience of design engineers and analysts, and ultimately experimental test data. The results contained within this report are believed to be reliable but should not be construed as providing any sort of warranty for fitness of purpose.