



Tutorial
AISC 360-10

20.10.2017
version 4.7

- ▶ In this tutorial, AISC 360-10 Beam Design Checks are reviewed in details.
- ▶ A beam model structure has been used as a start FEM model.
- ▶ Beam member finder was used to recognize beam member dimensions.
- ▶ Report was automatically generated in SDC Verifier Report to represent beam checks results according AISC 360-10 standard.

Open Project

1

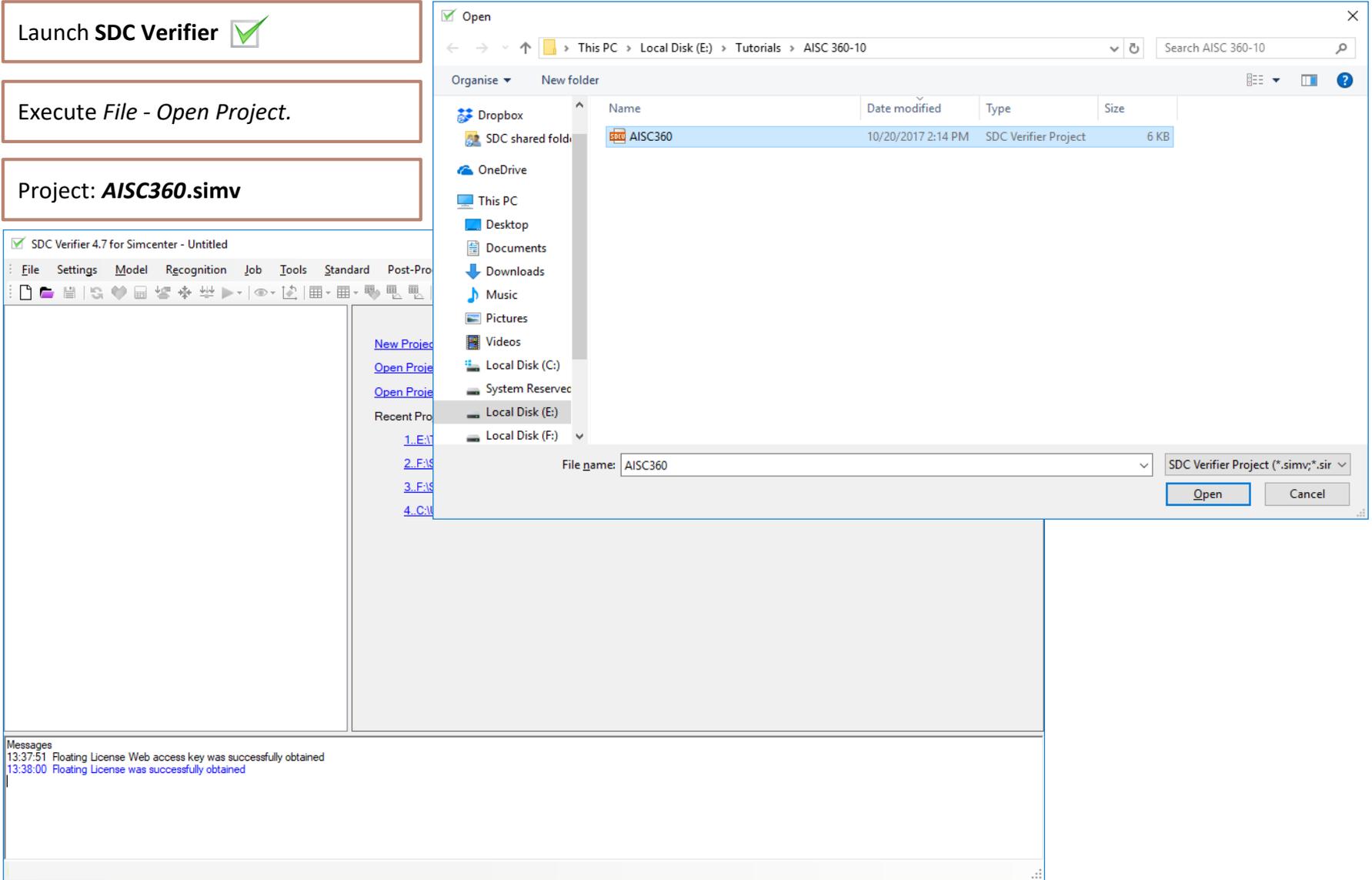
Launch **SDC Verifier** 

2

Execute *File - Open Project*.

3

Project: **AISC360.simv**

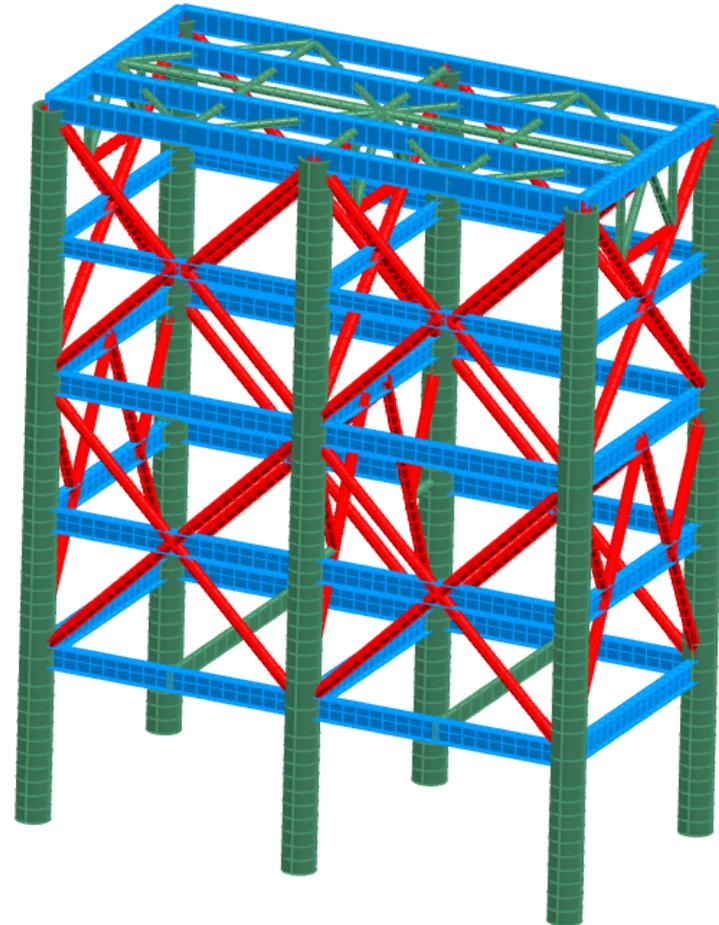
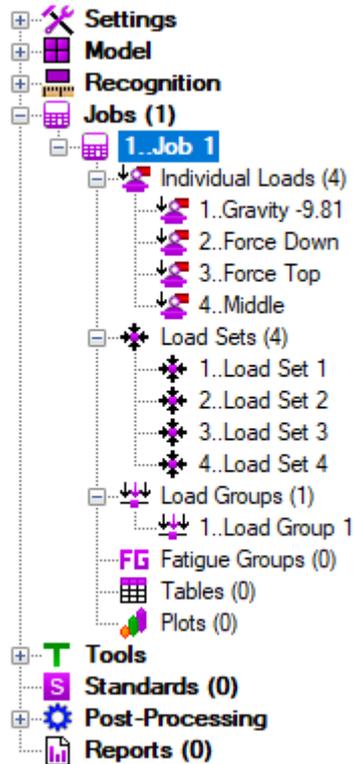


The screenshot shows the SDC Verifier 4.7 for Simcenter interface. The main window is titled "SDC Verifier 4.7 for Simcenter - Untitled" and has a menu bar with "File", "Settings", "Model", "Recognition", "Job", "Tools", "Standard", and "Post-Pro". The "File" menu is open, showing "New Project", "Open Project", and "Recent Projects". The "Open Project" option is selected. An "Open" dialog box is overlaid on the interface, showing the file path "This PC > Local Disk (E:) > Tutorials > AISC 360-10". The dialog box contains a table of files:

Name	Date modified	Type	Size
AISC360	10/20/2017 2:14 PM	SDC Verifier Project	6 KB

The "File name" field is set to "AISC360" and the file type is "SDC Verifier Project (*.simv;*.sir)". The "Open" button is highlighted. At the bottom of the SDC Verifier window, there is a "Messages" pane with the following text:

```
13:37:51 Floating License Web access key was successfully obtained
13:38:00 Floating License was successfully obtained
```



This tutorial uses project with predefined boundary condition, load combinations and load group. The model contains only beam elements of the following types: I-Beam, Circular and Rectangular Tubes

Joint – location where different beam members connect. They are used to recognize beam member length by Beam Member Finder Tool.

There are 6 types of Joints:

1D Joint – 2 beam members that lie on the curve but with different properties;

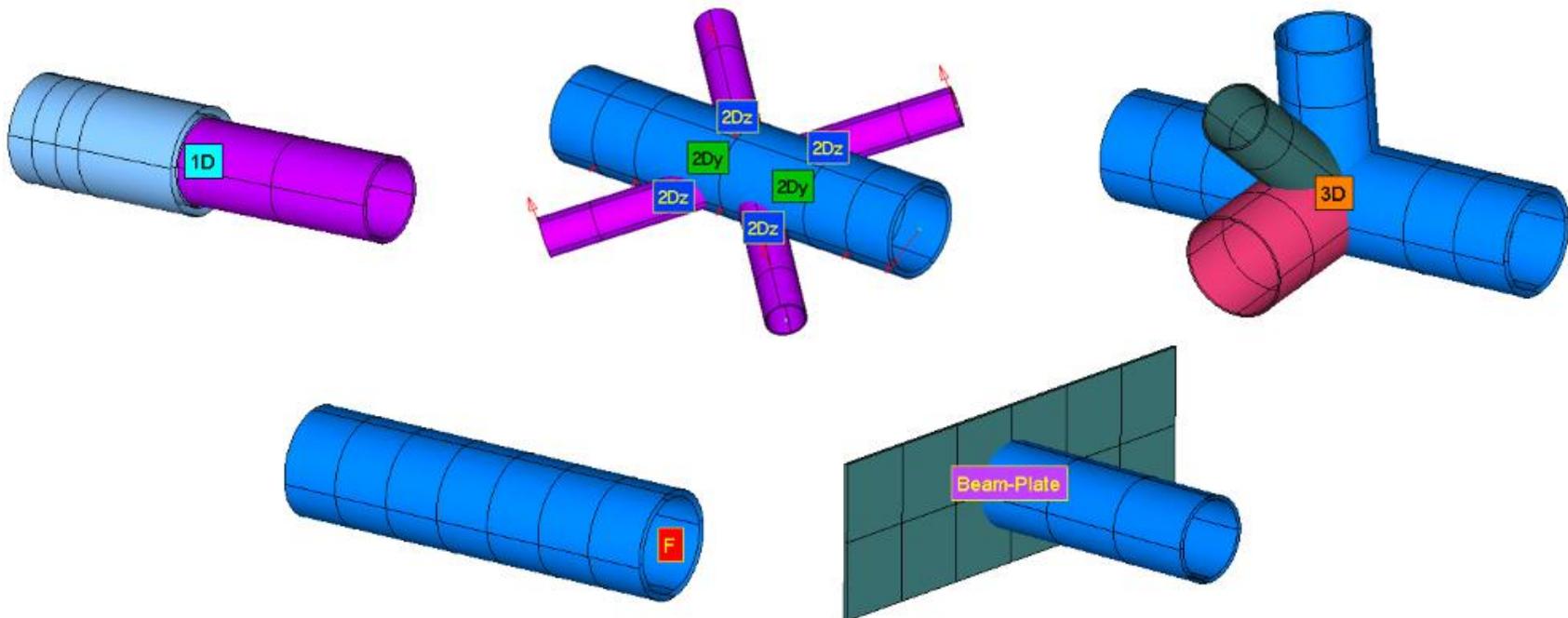
2D Joint – beam members connected in one plane;

3D Joint – beam members connected in space;

Free Joint – node which belongs only to one element (free);

Beam-Plate Joint – beam member connected to plates (perpendicularly);

User Defined;

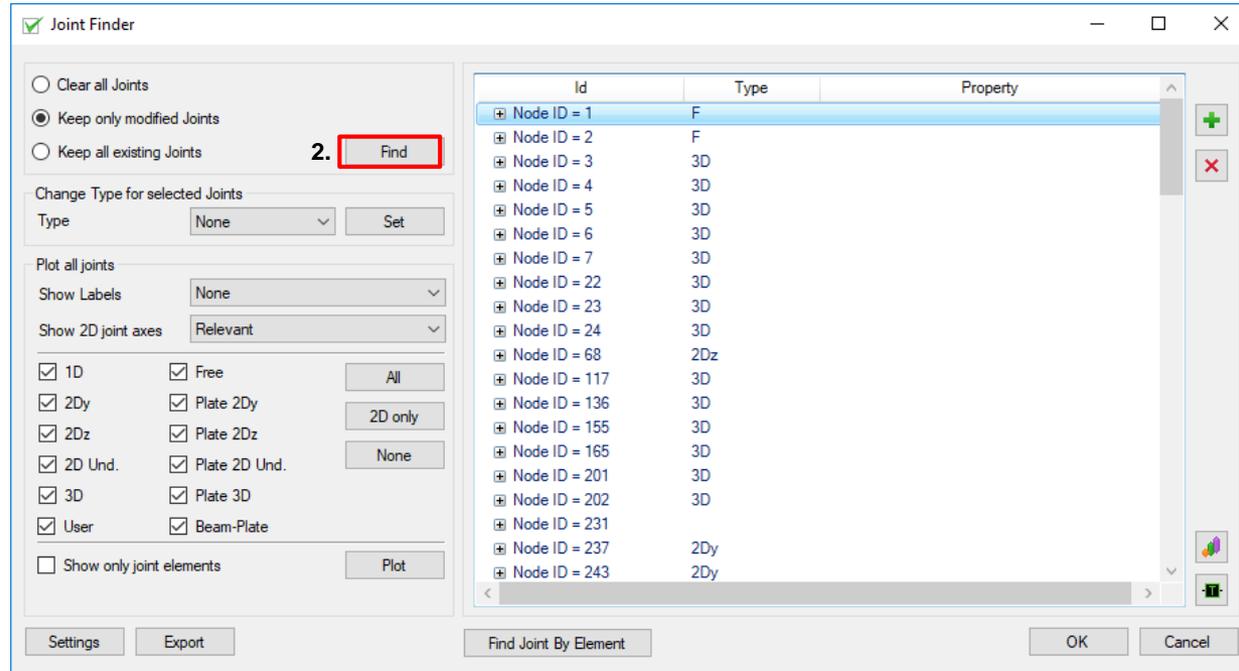
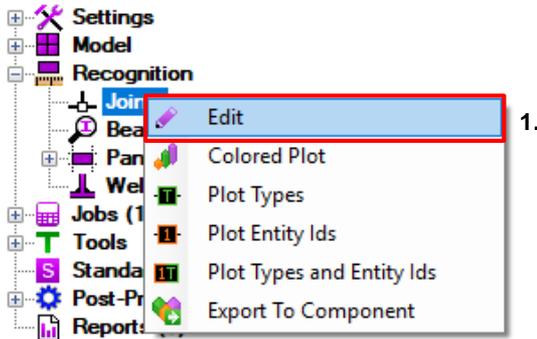


Joint Recognition

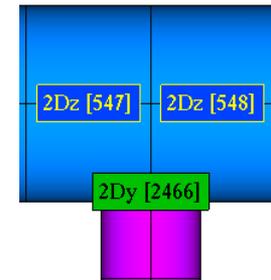
1 Execute *Edit* from *Joints* context menu

2 Press *Find*.

When performing the joint recognition there are 3 options for existing joints. Default option: Keep only modified– remove all joints except edited by user. Keep all existing options should be used when additional elements were added to the model



Node ID = 719			
Element ID = 547	2Dz	8..400x19	
Element ID = 548	2Dz	8..400x19	
Element ID = 2466	2Dy	14..200x10	

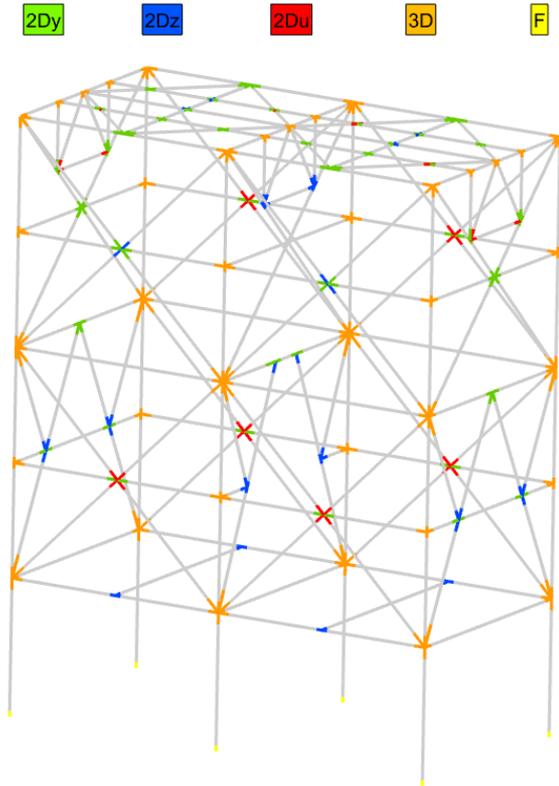


Joints Plot

1 Select All Joints (Ctrl+A).

2 Press

3 Press OK



Joint Finder

Clear all Joints
 Keep only modified Joints
 Keep all existing Joints

Find

Change Type for selected Joints
Type: None Set

Plot all joints
Show Labels: None
Show 2D joint axes: Relevant

<input checked="" type="checkbox"/> 1D	<input checked="" type="checkbox"/> Free	All
<input checked="" type="checkbox"/> 2Dy	<input checked="" type="checkbox"/> Plate 2Dy	2D only
<input checked="" type="checkbox"/> 2Dz	<input checked="" type="checkbox"/> Plate 2Dz	None
<input checked="" type="checkbox"/> 2D Und.	<input checked="" type="checkbox"/> Plate 2D Und.	
<input checked="" type="checkbox"/> 3D	<input checked="" type="checkbox"/> Plate 3D	
<input checked="" type="checkbox"/> User	<input checked="" type="checkbox"/> Beam-Plate	
<input type="checkbox"/> Show only joint elements		Plot

Id	Type	Property
Node ID = 1	F	
Node ID = 2	F	
Node ID = 3	3D	
Node ID = 4	3D	
Node ID = 5	3D	
Node ID = 6	3D	
Node ID = 7	3D	
Node ID = 22	3D	
Node ID = 23	3D	
Node ID = 24	3D	
Node ID = 68	2Dz	
Node ID = 117	3D	
Node ID = 136	3D	
Node ID = 155	3D	
Node ID = 165	3D	
Node ID = 201	3D	
Node ID = 202	3D	
Node ID = 231		
Node ID = 237	2Dy	
Node ID = 243	2Dy	

2.

3. OK Cancel

Settings Export Find Joint By Element

Plot Joints of specific type:

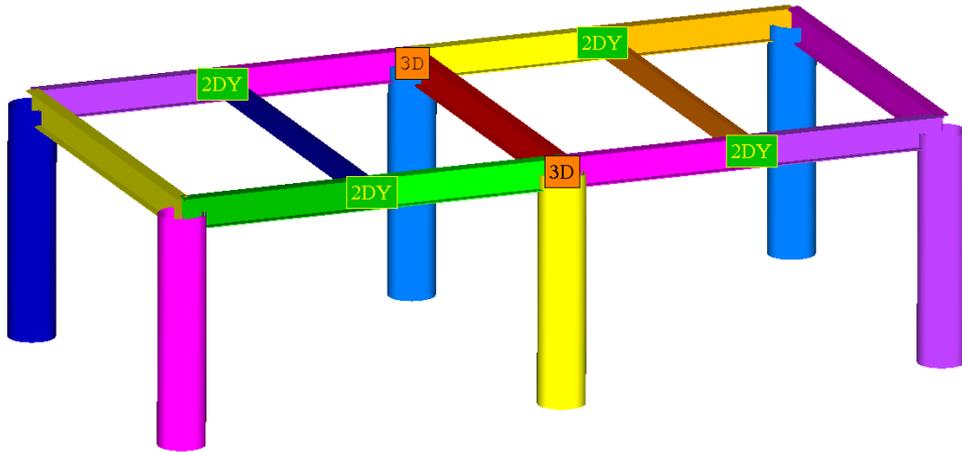
Plot Joints By Type
Type: None Plot

Modify Joint Type:

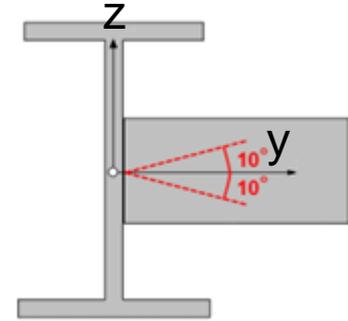
Change Type for selected Joints
Type: None Set

Beam Member Lengths in 2 directions

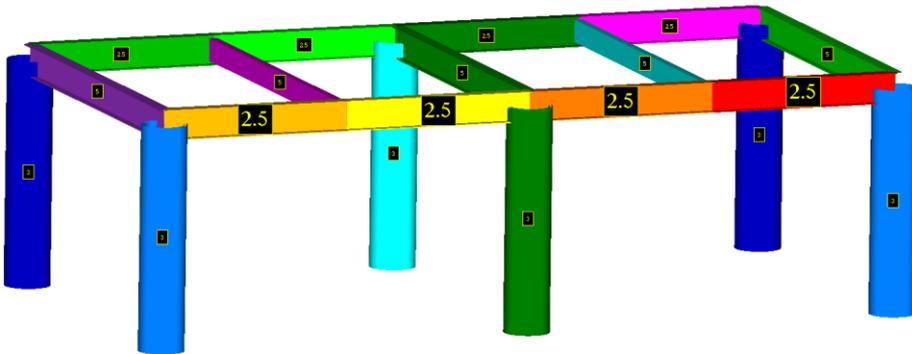
Beam Member Finder recognizes beam members and (buckling) lengths for different directions (Y, Z and Torsional).



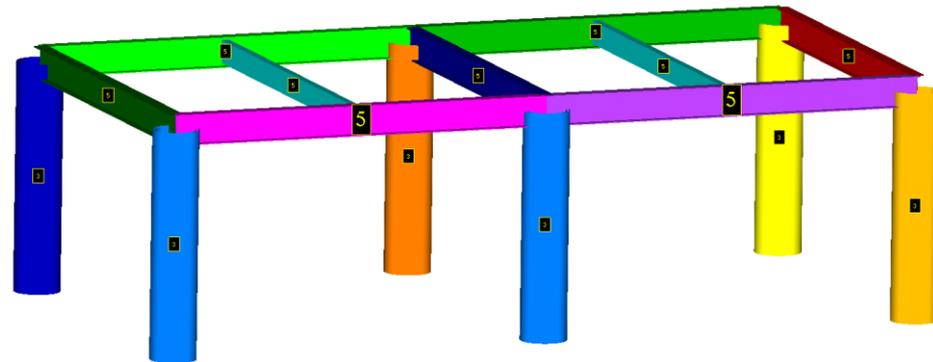
2DY
Joint



Length Y – 4 Beam Members with $L = 2.5$



Length Z – 2 Beam Members with $L = 5$

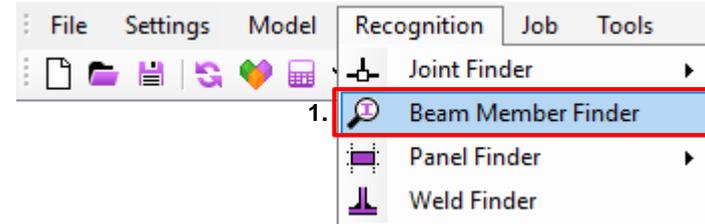


Recognize Length

1 Execute *Recognition – Beam Member Finder*

2 Break Joint Options:
Length Y – 2DY, 3D, Plate 2DY, Plate 3D
Length Z – 2DZ, 3D, Plate 2DZ, Plate 3D
Length Y – 2DY, 2DZ, 2D Und, 3D

3 Press *Search*.



2.

3.

Beam Member Finder

Selection: All Entities Action to current members: Keep only modified Search

Length Y Length Z Length Torsional Edit Member (in all directions) Filter

Break Joint Options

Length Y

1D User

2DY Plate 2DY

2DZ Plate 2DZ

2D Und. Plate 2D Und.

3D Plate 3D

Set K=0.01 for members fixed by plates Update Selected Members

Set to Selected

Length: [] Set

Length Factor: [] Set

Cm Type: A Set

A = 0.85
 B = Maximum (0.6 - 0.4 * (M1/M2),
 1 - 0.4 * (fc / (PhiC * Fe)))

Find Beam Member by Element

Edit Joints...

ID	Title	Elements	Length	Length Factor	Cm Type	Modified	Joint - NodeID [Joint Type]
1	Beam Member 1	47	13000				1107[3D] 155[3D] 1104[3D] 4[3D]
2	Beam Member 2	47	13000				1109[3D] 136[3D] 1108[3D] 117[3D]
3	Beam Member 3	47	13000				2225[3D] 1273[3D] 2222[3D] 1122[...]
4	Beam Member 4	47	13000				2227[3D] 1254[3D] 2226[3D] 1235[...]
5	Beam Member 5	47	13000				22[3D] 1105[3D] 165[3D] 1106[3D]
6	Beam Member 6	47	13000				1110[3D] 201[3D] 202[3D] 1111[3D]
7	Beam Member 7	32	10000				1090[2Dy] 22[3D] 2208[2Dy]
8	Beam Member 8	16	5000	1	A		
9	Beam Member 9	32	10000				1103[2Dy] 201[3D] 2221[2Dy]
10	Beam Member 10	16	5000	1	A		
11	Beam Member 11	16	5000	1	A		
12	Beam Member 12	32	10000				1100[2Dy] 1117[3D] 2218[2Dy]
13	Beam Member 13	18	5000				6[3D] 24[3D] 7[3D]
14	Beam Member 14	40	10000				231[2Dy] 237[2Dy] 243[2Dy] 3[3D] ...
15	Beam Member 15	40	10000				251[2Dy] 258[2Dy] 265[2Dy] 5[3D] ...
16	Beam Member 16	32	10000				1101[2Dy] 1116[3D] 2219[2Dy]
17	Beam Member 17	18	5000				1124[3D] 1142[3D] 1125[3D]
18	Beam Member 18	12	5000	1	A		
19	Beam Member 19	12	5000	1	A		
20	Beam Member 20	18	5000				271 237[2Dy] 258[2Dz]
21	Beam Member 21	40	10000				271 23[3D] 1389

OK Cancel

Beam Member Finder interface

Beam Member Finder

Selection: All Entities Action to current members: Remove all Search

Length Y Length Z Length Torsional Edit Member (in all directions) Filter

Break Joint Options

Torsion (Lb) ▼

1D User

2DY Plate 2DY

2DZ Plate 2DZ

2D Und. Plate 2D Und.

3D Plate 3D

Set K=0.01 for members fixed by plates

Update Selected Members

ID	Title	Elements	Length	Length Factor	Cm Type	Modified	Joint - NodeID [Joint Type]
1	Beam Member 1	47	13000				4[3D] 1104[3D] 155[3D] 1107[3D]
2	Beam Member 2	47	13000				1109[3D] 136[3D] 1108[3D] 117[3D]
3	Beam Member 3	47	13000				1111[3D] 202[3D] 1110[3D] 201[3D]
4	Beam Member 4	47	13000				2227[3D] 1254[3D] 2226[3D] 1235[...]
5	Beam Member 5	47	13000				1122[3D] 2222[3D] 1273[3D] 2225[...]
6	Beam Member 6	47	13000				22[3D] 1105[3D] 165[3D] 1106[3D]
7	Beam Member 7	32	10000				1103[2Dy] 201[3D] 2221[2Dy]
9	Beam Member 9	32	10000				22[3D] 2208[2Dy] 1090[2Dy]
9.1	Sub Member 9.1	8	2500	1	A		
9.2	Sub Member 9.2	8	2500	1	A		
9.3	Sub Member 9.3	8	2500	1	A		
9.4	Sub Member 9.4	8	2500	1	A		
10	Beam Member 10	16	5000	1	A		
11	Beam Member 11	16	5000	1	A		
12	Beam Member 12	18	5000				6[3D] 24[3D] 7[3D]
13	Beam Member 13	32	10000				1117[3D] 2218[2Dy] 1100[2Dy]
14	Beam Member 14	40	10000				5[3D] 1383[2Dy] 1376[2Dy] 1369[2...]
15	Beam Member 15	32	10000				2219[2Dy] 1116[3D] 1101[2Dy]
16	Beam Member 16	18	5000				1125[3D] 1142[3D] 1124[3D]
17	Beam Member 17	40	10000				3[3D] 1361[2Dy] 1355[2Dy] 1349[2...]

Set to Selected

Length Set

Length Factor Set

Cm Type A Set

A = 0.85
B = Maximum (0.6 - 0.4 * (M1/M2),
1 - 0.4 * (fc / (PhiC * Fe)))

Find Beam Member by Element

Edit Joints... OK Cancel

Break Options define what joints are used to split beam members

Change Length/Factor for selected beam members

Cm Type is used in API 2A, ISO 19902 and Norsok N004 standards

Colored Plot of members with labels (ID, Length, Factor or Cm Type).

Beam Member – straight line. If it contains joints it is split on sub members

9	Beam Member 9	32	10000				1103[2Dz] 201[3D] 2221[2Dz]
9.1	Sub Member 9.1	8	2500	1	A		
9.2	Sub Member 9.2	8	2500	1	A		
9.3	Sub Member 9.3	8	2500	1	A		
9.4	Sub Member 9.4	8	2500	1	A		



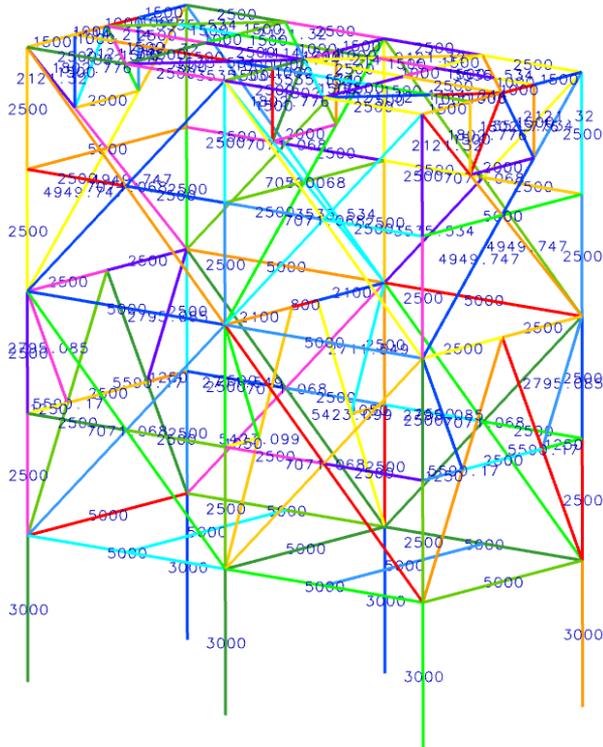
Beam Member's Length Plot

1 Select All Beam Members (Ctrl+A)

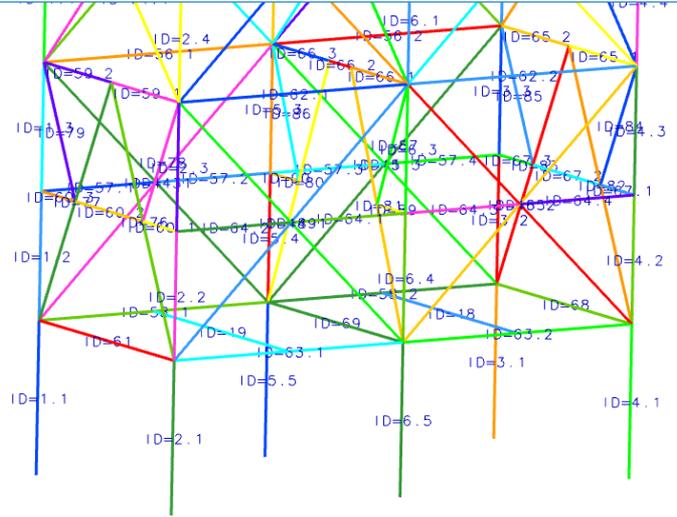
2 Press to display Length Plot

3 Press OK

ID	Title	Elements	Length	Length Factor	Cm Type	Modified	Joint - NodeID [Joint Type]
1	Beam Member 1	47	13000				4[3D] 1104[3D] 155[3D] 1107[3D]
2	Beam Member 2	47	13000				1109[3D] 136[3D] 1108[3D] 117[3D]
3	Beam Member 3	47	13000				1111[3D] 202[3D] 1110[3D] 201[3D]
4	Beam Member 4	47	13000				2227[3D] 1254[3D] 2226[3D] 1235...
5	Beam Member 5	47	13000				1122[3D] 2222[3D] 1273[3D] 2225...
6	Beam Member 6	47	13000				22[3D] 1105[3D] 165[3D] 1106[3D]
7	Beam Member 7	32	10000				1103[2Dy] 201[3D] 2221[2Dy]
8	Beam Member 8	16	5000	1	A		
9	Beam Member 9	32	10000				22[3D] 2208[2Dy] 1090[2Dy]
10	Beam Member 10	16	5000	1	A		
11	Beam Member 11	16	5000	1	A		
12	Beam Member 12	18	5000				6[3D] 24[3D] 7[3D]
13	Beam Member 13	32	10000				1117[3D] 2218[2Dy] 1100[2Dy]
14	Beam Member 14	40	10000				5[3D] 1383[2Dy] 1376[2Dy] 1369[2...
15	Beam Member 15	32	10000				2219[2Dy] 1116[3D] 1101[2Dy]
16	Beam Member 16	18	5000				1125[3D] 1142[3D] 1124[3D]
17	Beam Member 17	40	10000				3[3D] 1361[2Dy] 1355[2Dy] 1349[2...
18	Beam Member 18	12	5000	1	A		
19	Beam Member 19	12	5000	1	A		
20	Beam Member 20	40	10000				271 23[3D] 1389
21	Beam Member 21	18	5000				237[2Dy] 271 258[2Dy]



Also it is possible to display beam members IDs by pressing

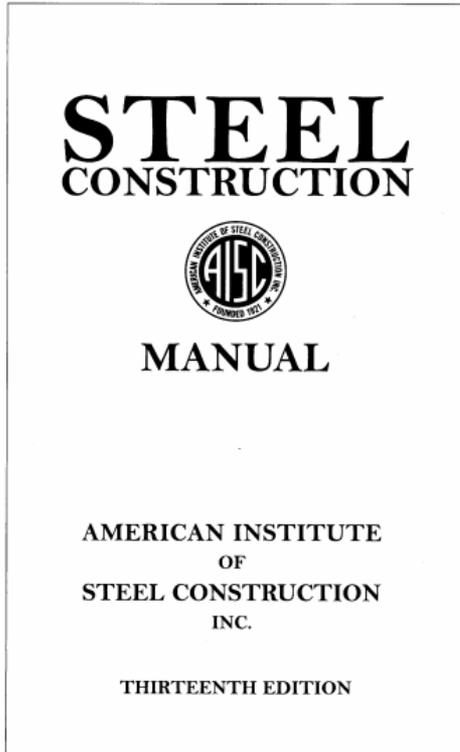


Analyze Job

1

Execute **Analyze** from Job1 context menu

The screenshot displays the SDC Verifier 4.7 for Simcenter software interface. The title bar reads "SDC Verifier 4.7 for Simcenter - E:\Tutorials\AISC 360-10\AISC360.simv". The menu bar includes File, Settings, Model, Recognition, Job, Tools, Standard, Post-Processing, Results, Report, and Help. The toolbar contains various icons for file operations, analysis, and visualization. The left-hand tree view shows a hierarchy: Settings, Model, Recognition, Joints, Beam Member Finder, Panel Finder, Weld Finder, Jobs (1), and Tools. Under "Jobs (1)", a context menu is open for "Job 1", with the "Analyze" option highlighted in blue and a red box around it. The context menu options are: Add, Copy, Remove, Analyze, Recalculate SDC Results, Select Loads to be Analyzed..., Clear Results, and Scheme. The right-hand panel shows the "Job 1" configuration. It includes fields for ID (1) and Title (Job 1), a Description field, and a dropdown for Analysis (Linear Static). Below this are buttons for "Analysis Options" (Define...) and "Select Loads to be Analyzed (4/4)". The "Request Results" section has checkboxes for Displacement, Stress, Applied Force, Reaction Force, Element Force, Strain, Strain Energy, Force Balance, and Constraint Equation Force. The "Analysis Selection" and "Read Results Selection" sections both have "All Entities" selected in their respective dropdowns. An "Apply" button is at the bottom right. The bottom status bar shows: "Nodes: 1725 Elements: 1858 Fem Model: F:\SimcenterModels\AISC360\aisc360_s.sim". The bottom-most part of the window shows a log of messages, including: "17:16:48 Check '3..Rectangular Tube' results were cleared", "17:16:48 Check '9..Bending Strength Channels' results were cleared", "17:16:48 Check '4..Section C' results were cleared", "17:16:49 Check '8..Bending Strength I-beams' results were cleared", "17:16:49 Check '5..Section I' results were cleared", "17:16:49 Check '11..Shear' results were cleared", "17:16:49 Check '1..Beam Characteristics' results were cleared", "17:16:49 Check '7..Shear Strength' results were cleared", and "17:16:49 Check '2..Circular Tube' results were cleared".



ANSI/AISC 360-10 - an American national standard "Specification for Structural Steel Buildings", released on June 22, 2010. Checks are performed according to the provisions for load and resistance factor design (LRFD) and allowable strength design (ASD). The standard implements checks for design of members for tension, compression, bending, shear and combined.

Specification for Structural Steel Buildings

March 9, 2005

Supersedes the *Load and Resistance Factor Design Specification for Structural Steel Buildings* dated December 27, 1999, the *Specification for Structural Steel Buildings—Allowable Stress Design and Plastic Design* dated June 1, 1989, including Supplement No. 1, the *Specification for Allowable Stress Design of Single-Angle Members* dated June 1, 1989, the *Load and Resistance Factor Design Specification for Single-Angle Members* dated November 10, 2000, and the *Load and Resistance Factor Design Specification for the Design of Steel Hollow Structural Sections* dated November 10, 2000, and all previous versions of these specifications.

Approved by the AISC Committee on Specifications and issued by the AISC Board of Directors



AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.
One East Wacker Drive, Suite 700
Chicago, Illinois 60601-1802

It is possible to check a design according to load and resistance factor design (LRFD) or allowable strength design (ASD). The difference between 2 designs is in load combinations and resistance factors:

Resistance Factors		Resistance Factors	
	LRFD		ASD
Tension (F _t)	0.9	Tension (F _t)	0.6
Tensile Rupture (F _{tr})	0.75	Tensile Rupture (F _{tr})	0.5
Compression (F _c)	0.9	Compression (F _c)	0.6
Shear (F _v)	0.9	Shear (F _v)	0.6
Bending (F _b)	0.9	Bending (F _b)	0.6

Design for Strength Using Load and Resistance Factor Design (LRFD)

Design will be performed in accordance with Equation B3-1:

$$R_u \leq \phi R_n \text{ (B3-1)},$$

where:

R_u = required strength using LRFD load combinations;

R_n = nominal strength, specified in Chapters B through K;

ϕ = resistance factor, specified in Chapters B through K;

ϕR_n = design strength.

Design for Strength Using Allowable Strength Design (ASD)

Design will be performed in accordance with Equation B3-2:

$$R_a \leq R_n / \Omega \text{ (B3-2)},$$

where:

R_a = required strength using ASD load combinations;

R_n = nominal strength, specified in Chapters B through K;

Ω = safety factor, specified in Chapters B through K;

R_n / Ω = allowable strength.

According to the standard Design Strength is multiplied by LRFD factor and divided by ASD factor.

For tensile yielding in the gross section:

$$P_n = F_y A_g \quad \text{(D2-1)}$$

$$\phi_t = 0.90 \text{ (LRFD)} \quad \Omega_t = 1.67 \text{ (ASD)}$$

In SDC Verifier multiplication is always used ASD factor is converted to $1 / S_f$ (ASD). For example: tensile resistance factor (F_{t}) = $1 / 1.67 = 0.6$.

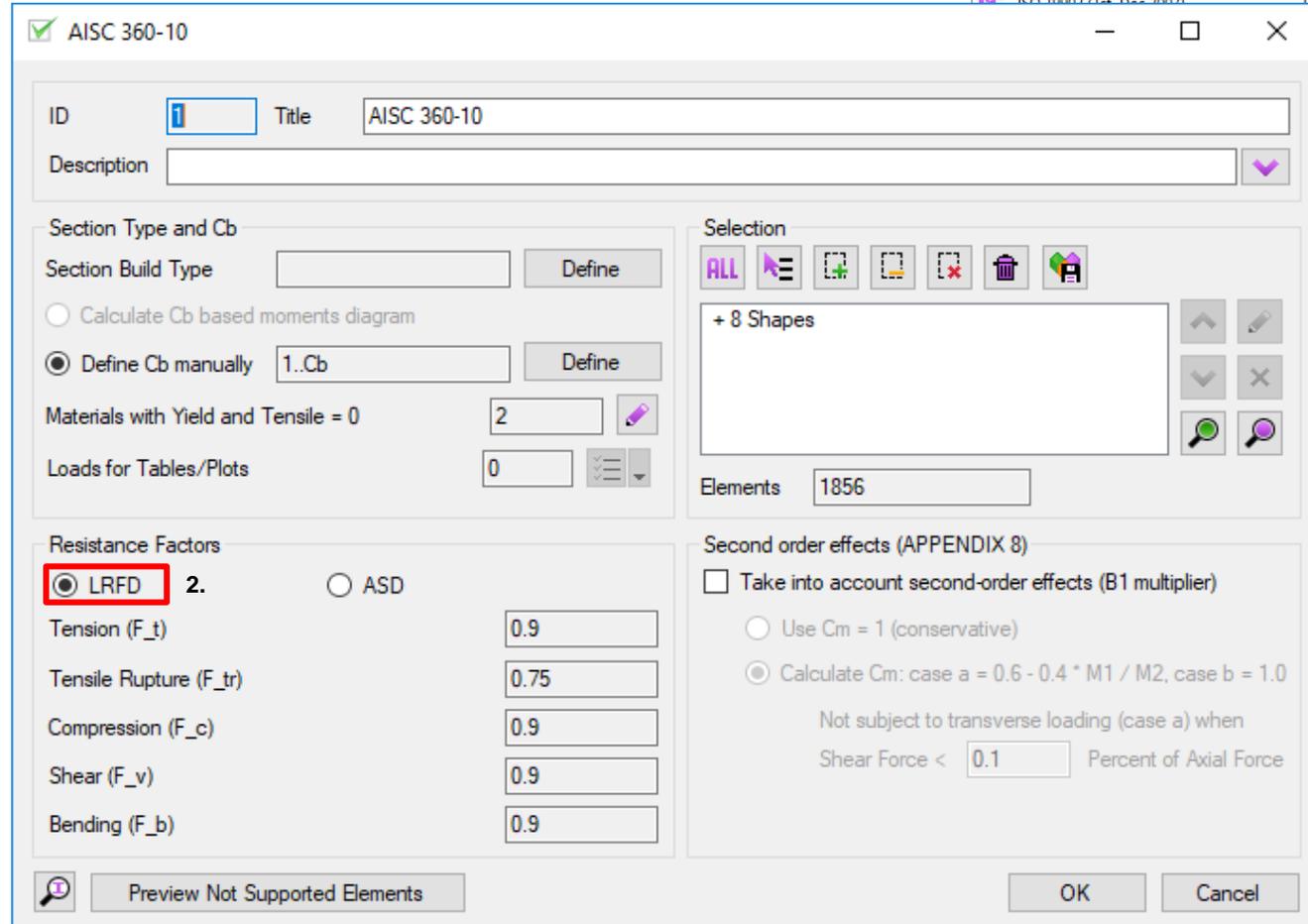
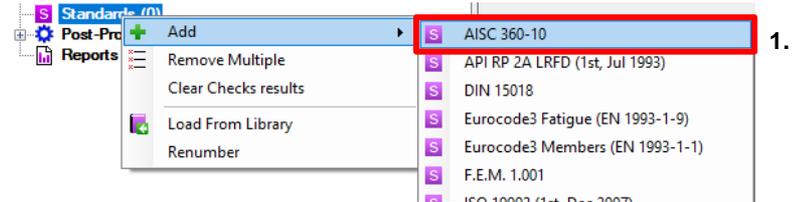
Add AISC360-10 standard

1

Execute **Standards** => **Add** => **AISC360-10** from context menu

2

Resistance Factors: **LRFD**



Section Build Type

1 Press *Define* for Section Build Type

2 Select All Properties (Ctrl+A)

3 Value: **Rolled**. Press *Apply*

4 Press *OK*

The screenshot shows the AISC 360-10 software interface. The main window is titled "AISC 360-10" and contains a "Section Type and Cb" section. The "Section Build Type" is set to "1." and the "Define" button is highlighted with a red box. The "Define Cb manually" option is selected, and the "Define" button is also highlighted. The "Materials with Yield and" section is visible, and the "Resistance Factors" section has "LRFD" selected. The "Tension (F_t)" section is visible, and the "Tensile Rupture (F_{tr})" section is visible. The "Compression (F_c)" section is visible, and the "Shear (F_v)" section is visible. The "Bending (F_b)" section is visible. The "Preview Not S" button is visible at the bottom left.

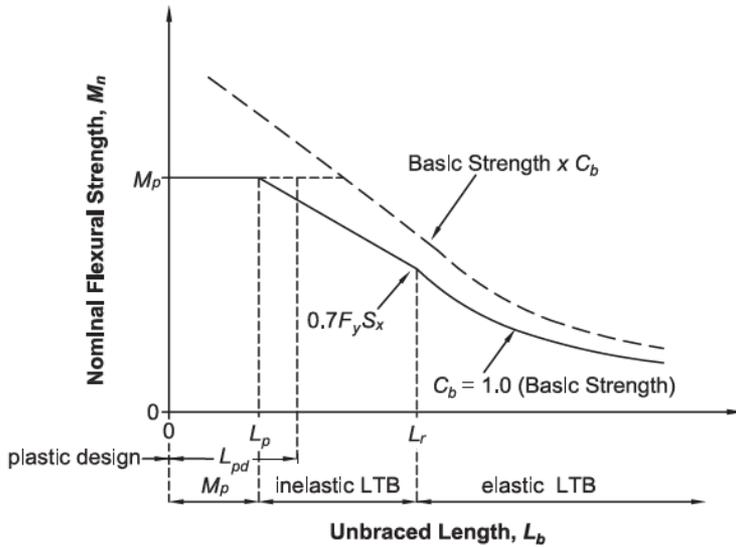
The "Properties Characteristics" dialog box is open, showing the "BuildType" dropdown menu set to "3. Rolled" and the "Apply" button highlighted with a red box. The "Properties" table is visible, with all rows selected (highlighted in blue). The table has two columns: "Property" and "Value".

Property	Value
1..150x8	Rolled
2..130x7	Rolled
3..400x200x20	Rolled
4..160x8	Rolled
5..Main Vertical 480x30	Rolled
8..IPE 400	Rolled
9..220x12	Rolled
11..300x10	Rolled
12..200x10	Rolled
13..180x9	Rolled
14..IPE 300	Rolled
15..100x10	Rolled

The "OK" button is highlighted with a red box at the bottom right of the dialog box.

Lateral-torsional buckling factor (C_b)

SDC Verifier follows conservative approach and uses $C_b = 1.0$. C_b is implemented as a characteristic which can be modified. For the details see Chapter F “Design of members for Flexure”, F1 General Provisions



The screenshot shows the 'AISC 360-10' software interface. The 'Section Type and Cb' section is active, with 'Section Build Type' set to '1..Section Build Type'. Under 'Define Cb manually', the value '1..Cb' is entered, and the 'Define' button is highlighted with a red box. The 'Resistance Factors' section shows 'LRFD' selected. The 'Second order effects (APPENDIX 8)' section has 'Calculate Cm: case a = 0.6 - 0.4 * M1 / M2, case b = 1.0' selected. The 'Elements' field shows '1856'.

Define Material Characteristics

- 1 Press to set the material yield stress and tensile strength
- 2 Select All Materials (Ctrl+A)
- 3 Tensile Strength: **360e+6**
- 4 Yield Stress: **240e+6**
- 5 Press *Set*
- 6 Press *OK*

Materials	Tensile Strength	Yield Stress
1..AISI 4340 Steel	0	0
2..AISI 4130 Steel	0	0

Properties
 Tensile Strength: 360000
 Yield Stress: 240000
 Set
 OK

Create default plots/tables

1

Press to select loads for default plots/tables

2

Press **LS (4 / 4)** to select all load sets

3

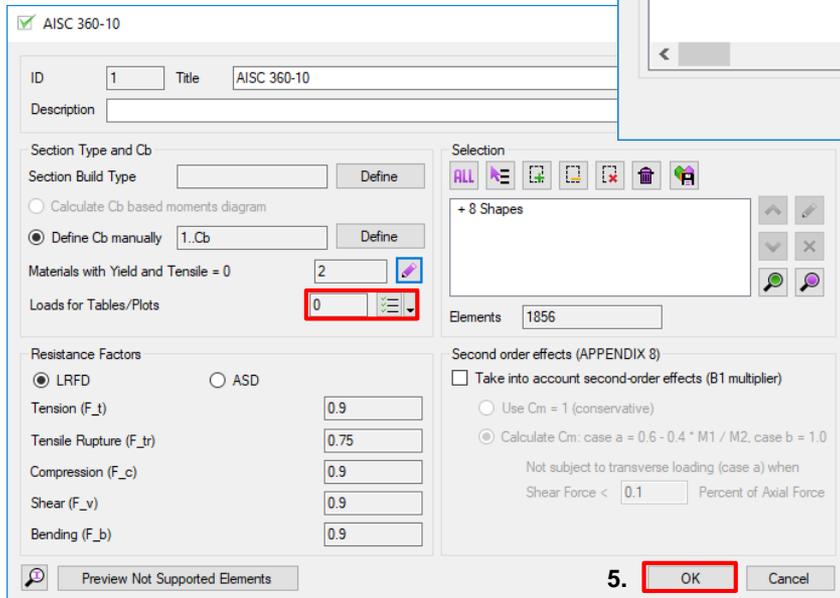
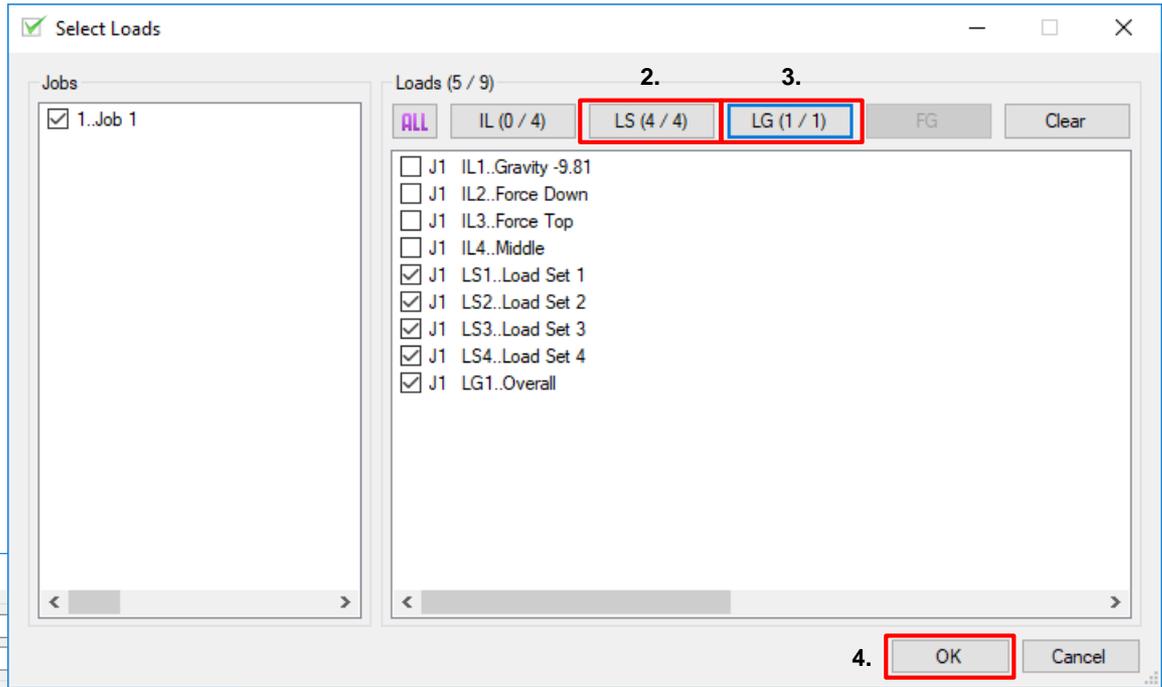
Press **LG (1 / 1)** to select all load groups

4

Press **OK**

5

Press **OK**



Standard is created!

Standard

- 1..AISC 360-10
 - π Constants (19)
 - Types (2)
 - unit Characteristics
 - Classifications (0)
 - Standard Tables (0)
 - Checks (13)
 - 1..Beam Characteristics
 - 2..Circular Tube
 - 3..Rectangular Tube
 - 4..Section C
 - 5..Section I
 - 6..Axial Strength
 - 7..Shear Strength
 - 8..Bending Strength I-beams
 - 9..Bending Strength Channels
 - 10..Axial
 - 11..Shear
 - 12..Bending
 - 13..Overall

Default Tables

- Tables (5)
 - 1..All (LS1, 2..s2.AISC360 selection)
 - 2..All (LS2, 2..s2.AISC360 selection)
 - 3..All (LS3, 2..s2.AISC360 selection)
 - 4..All (LS4, 2..s2.AISC360 selection)
 - 5..All (LG1, 2..s2.AISC360 selection)

Default Plots

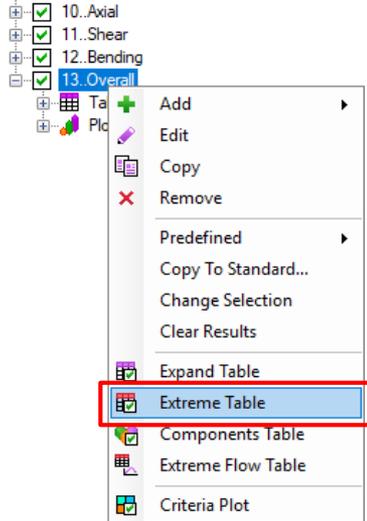
- Plots (5)
 - 1..Uf Overall (LS1, 2..s2.AISC360 selection, v1)
 - 2..Uf Overall (LS2, 2..s2.AISC360 selection, v1)
 - 3..Uf Overall (LS3, 2..s2.AISC360 selection, v1)
 - 4..Uf Overall (LS4, 2..s2.AISC360 selection, v1)
 - 5..Abs Uf Overall (LG1, 2..s2.AISC360 selection, v1)

Overall Check contains results from all checks. With the help of one table/plot it is possible to verify if the model passes the checks (< 1).
Overall Utilization Factor = worst Uf among all checks.

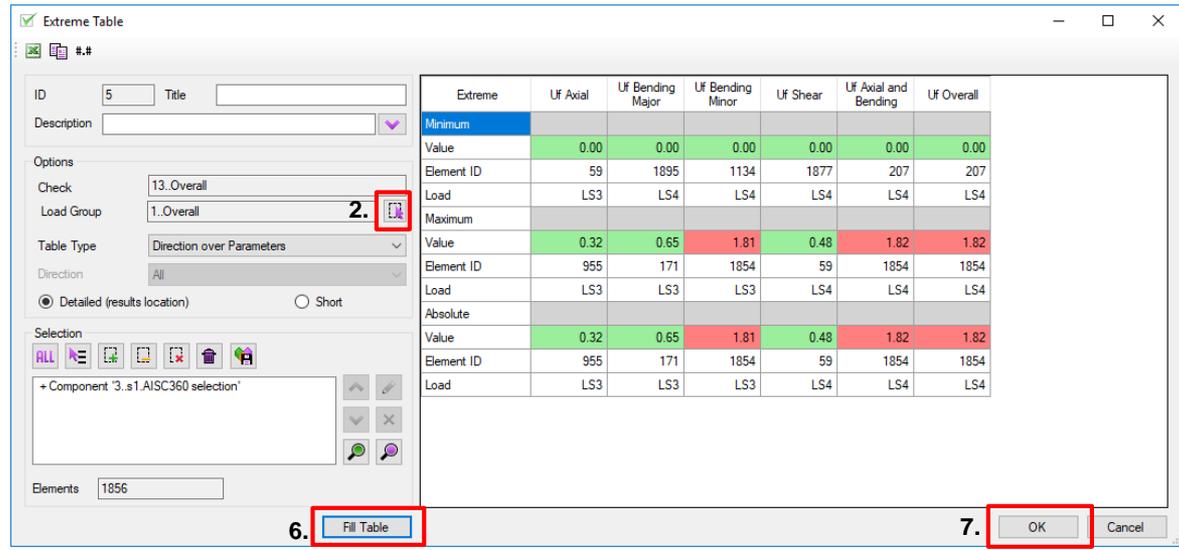
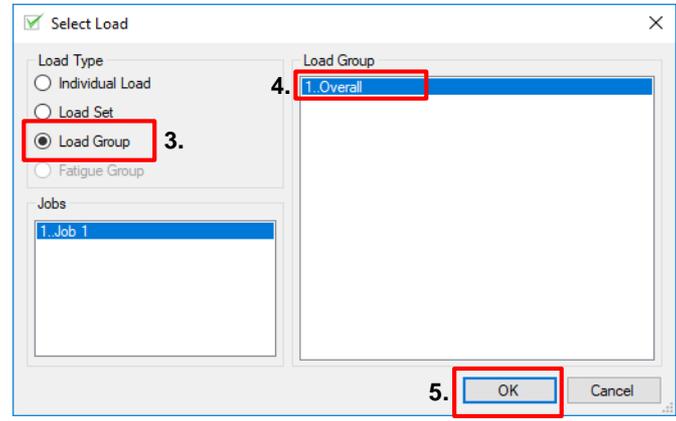
Extreme	Uf Axial	Uf Bending Major	Uf Bending Minor	Uf Shear	Uf Axial and Bending	Uf Overall
Minimum						
Value	0.00	0.00	0.00	0.00	0.00	0.00
Element ID	59	1895	1134	1877	207	207
Load	LS3	LS4	LS4	LS4	LS4	LS4
Maximum						
Value	0.32	0.65	1.81	0.48	1.82	1.82
Element ID	955	171	1854	59	1854	1854
Load	LS3	LS3	LS3	LS4	LS4	LS4
Absolute						
Value	0.32	0.65	1.81	0.48	1.82	1.82
Element ID	955	171	1854	59	1854	1854
Load	LS3	LS3	LS3	LS4	LS4	LS4

Extreme envelop results for overall check

- 1 Execute from the **Overall** check context menu
- 2 Press to select load
- 3 Load Type: **Load Group**
- 4 Load: **1..Overall**
- 5 Press *OK*
- 6 Press *Fill Table*
- 7 Press *OK*

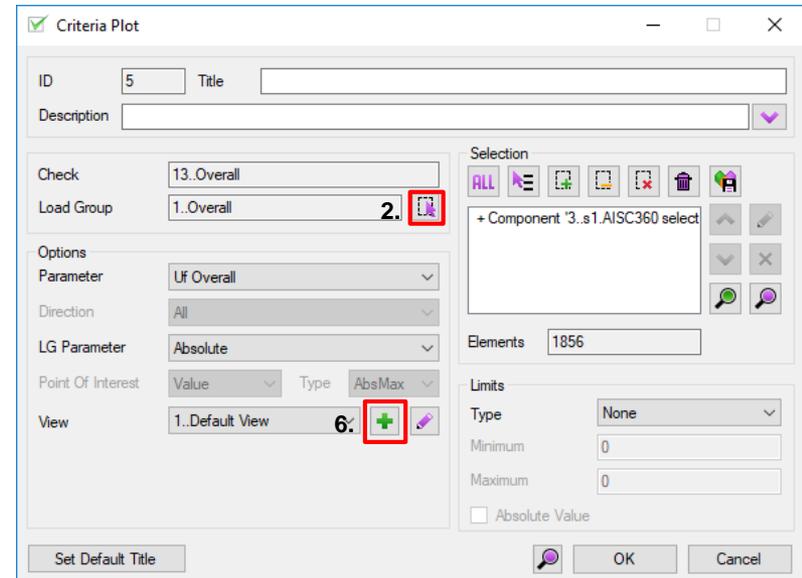
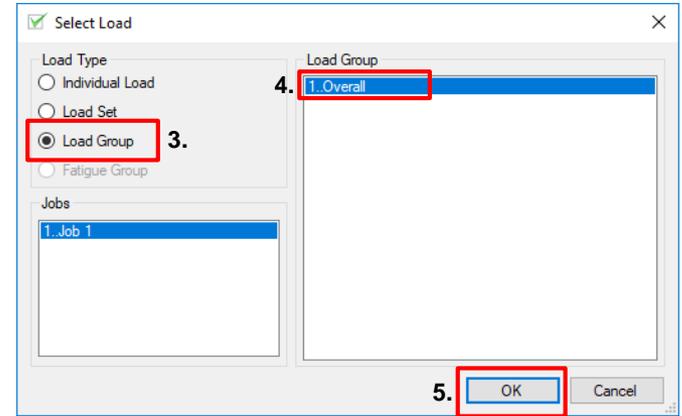
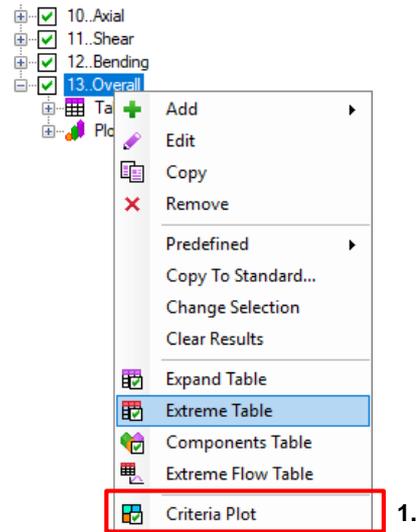


1.



Overall Utilization Factor criteria plot

- 1 Execute from **Overall** check context menu
- 2 Press to select load
- 3 Load Type: **Load Group**
- 4 Load: **1..Overall**
- 5 Press *OK*
- 6 Press to add view



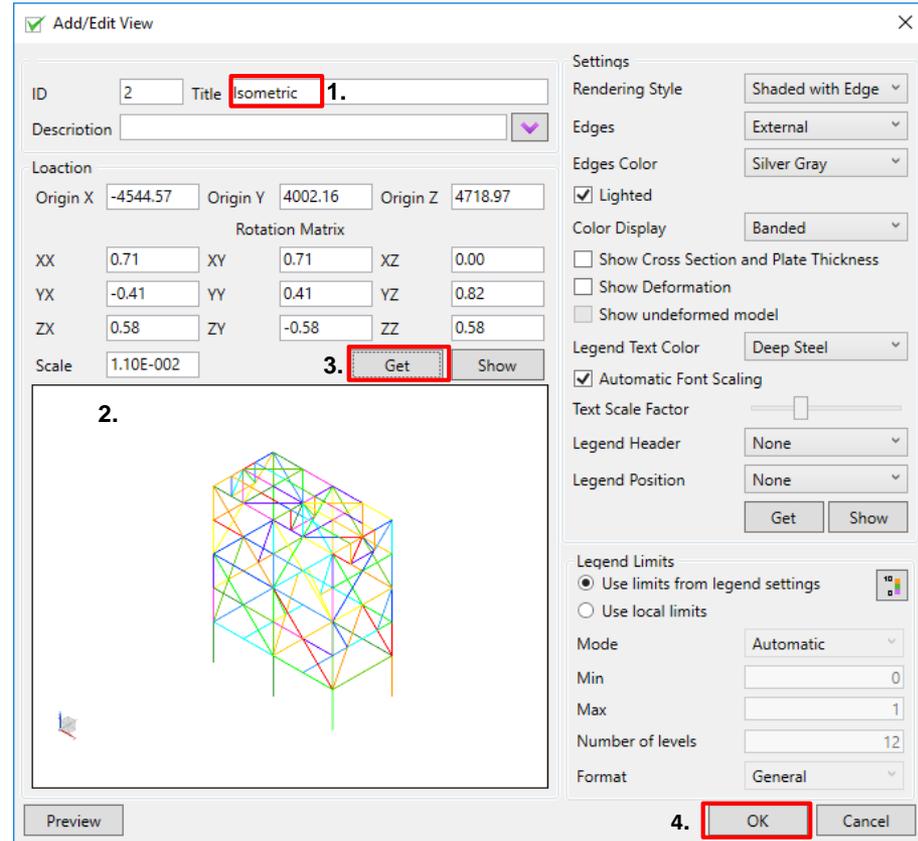
Plot. Create View

1 Title: **Isometric**

2 Orient model in Simcenter as shown on the picture

3 Press *Get*

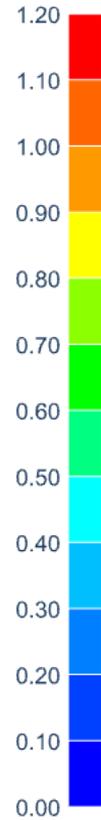
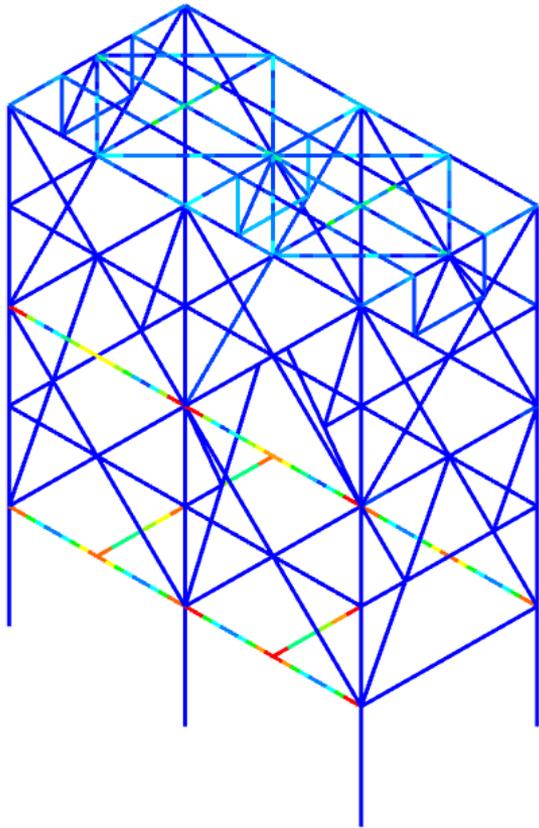
4 Press *OK*



Display Plot

1

Press  to display plot



Criteria Plot

ID: 5 Title: []

Description: []

Check: 13..Overall

Load Group: 1..Overall

Options

Parameter: Uf Overall

Direction: All

LG Parameter: Absolute

Point Of Interest: Value Type: AbsMax

View: 2..Isometric

Selection

ALL [] [] [] [] [] []

+ Component '3..s1.AISC360 select

Elements: 1856

Limits

Type: None

Minimum: 0

Maximum: 0

Absolute Value

1.  OK Cancel

Report

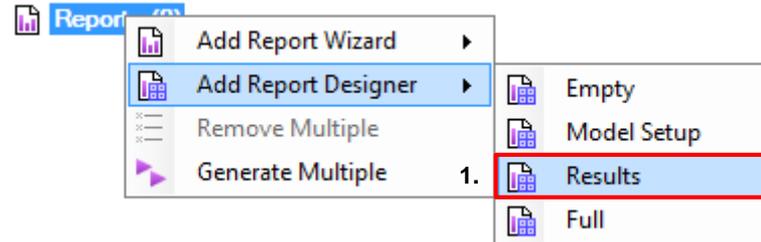
1 Execute *Add Report Designer* => *Results* from *Report* context menu.

2 Title: **Example**

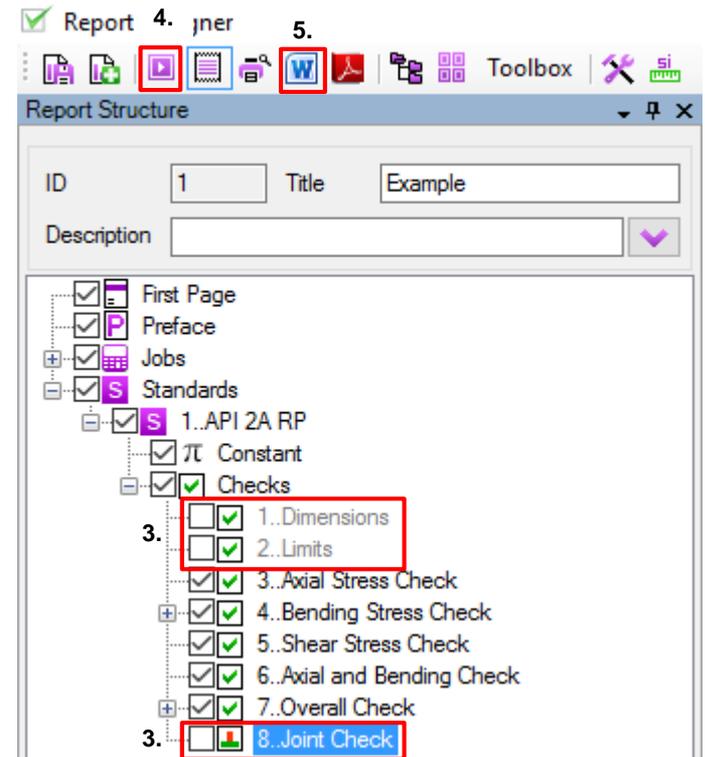
3 Checks with ID from 1 to 9 : **OFF**

4 Press  to generate report

5 Press  to export report to Word

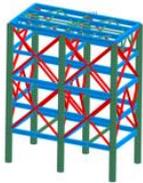


There are 4 templates of the reports:
Empty – only first page and preface items are included;
Model Setup – description of the model data (materials, properties, components, boundary conditions) is included;
Results – for each load extreme displacement tables, stress and displacement plots are included. Predefined tables: sum of reaction forces, stresses/displacements summary tables;
Full – Model Setup + Results + all tables created in Job.



Report exported to Microsoft Word

Report



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Engineer:
Customer:
Project Number:
Version:
Date:

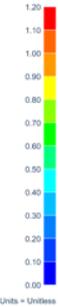
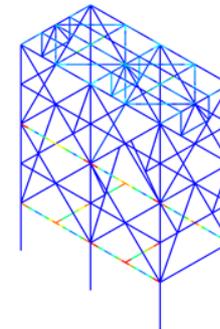
Support
customer
1
20 Oct 2017

2..Bending

Property	Value									
Category	Elemental Custom Check									
Selection	Component '3..s1.AISC360 selection'									
Parameters	12									
II (LS1, 3..s1.AISC360 selection)										
Standard	1..AISC 360-10				Check	[S1] 12..Bending				
Load Set	LS1..Load Set 1				Direction	All				
Selection	3..s1.AISC360 selection									
Extreme	Mn Major	Mn Minor	Bending Major	Bending Minor	Bending Major with Effect	Bending Minor with Effect	Uf Major	Uf Minor		
Inimum	25.4e+9	25.4e+9	-87.8e+9	-148.5e+9	-87.8e+9	-148.5e+9	0.00	0.00		
aximum	3015.7e+9	3015.7e+9	87.8e+9	147.7e+9	87.8e+9	147.7e+9	0.65	1.81		
bsolute	3015.7e+9	3015.7e+9	-87.8e+9	-148.5e+9	-87.8e+9	-148.5e+9	0.65	1.81		
II (LS2, 3..s1.AISC360 selection)										
Standard	1..AISC 360-10				Check	[S1] 12..Bending				
Load Set	LS2..Load Set 2				Direction	All				
Selection	3..s1.AISC360 selection									
Extreme	Mn Major	Mn Minor	Bending Major	Bending Minor	Bending Major with Effect	Bending Minor with Effect	Uf Major	Uf Minor		
Inimum	25.4e+9	25.4e+9	-62.4e+9	-76.9e+9	-62.4e+9	-76.9e+9	0.00	0.00		
aximum	3015.7e+9	3015.7e+9	61.6e+9	88.2e+9	61.6e+9	88.2e+9	0.02	1.81		
bsolute	3015.7e+9	3015.7e+9	-62.4e+9	-76.9e+9	-62.4e+9	-76.9e+9	0.02	1.81		
II (LS3, 3..s1.AISC360 selection)										
Standard	1..AISC 360-10				Check	[S1] 12..Bending				
Load Set	LS3..Load Set 3				Direction	All				
Selection	3..s1.AISC360 selection									
Extreme	Mn Major	Mn Minor	Bending Major	Bending Minor	Bending Major with Effect	Bending Minor with Effect	Uf Major	Uf Minor		
Inimum	25.4e+9	25.4e+9	-87.8e+9	-148.5e+9	-87.8e+9	-148.5e+9	0.00	0.00		
aximum	3015.7e+9	3015.7e+9	87.8e+9	147.7e+9	87.8e+9	147.7e+9	0.65	1.81		
bsolute	3015.7e+9	3015.7e+9	-87.8e+9	-148.5e+9	-87.8e+9	-148.5e+9	0.65	1.81		
II (LS4, 3..s1.AISC360 selection)										
Standard	1..AISC 360-10				Check	[S1] 12..Bending				
Load Set	LS4..Load Set 4				Direction	All				
Selection	3..s1.AISC360 selection									
Extreme	Mn Major	Mn Minor	Bending Major	Bending Minor	Bending Major with Effect	Bending Minor with Effect	Uf Major	Uf Minor		
Inimum	25.4e+9	25.4e+9	-62.4e+9	-76.9e+9	-62.4e+9	-76.9e+9	0.00	0.00		
aximum	3015.7e+9	3015.7e+9	61.6e+9	88.2e+9	61.6e+9	88.2e+9	0.02	1.81		
bsolute	3015.7e+9	3015.7e+9	-62.4e+9	-76.9e+9	-62.4e+9	-76.9e+9	0.02	1.81		

..Overall

Property	Value					
Category	Elemental Custom Check					
Selection	Component '3..s1.AISC360 selection'					
Parameters	6					
(LG1, 3..s1.AISC360 selection)						
Standard	1..AISC 360-10		Check	[S1] 13..Overall		
Load Group	LG1..Overall		Selection	3..s1.AISC360 selection		
Extreme	Uf Axial	Uf Bending Major	Uf Bending Minor	Uf Shear	Uf Axial and Bending	Uf Overall
Inimum	0.00	0.00	0.00	0.00	0.00	0.00
aximum	0.32	0.65	1.81	0.48	1.82	1.82
bsolute	0.32	0.65	1.81	0.48	1.82	1.82
Uf Overall (LG1, 3..s1.AISC360 selection, v2)						
Extreme	Uf Axial	Uf Bending Major	Uf Bending Minor	Uf Shear	Uf Axial and Bending	Uf Overall
Inimum	0.00	0.00	0.00	0.00	0.00	0.00
aximum	0.32	0.65	1.81	0.48	1.82	1.82
bsolute	0.32	0.65	1.81	0.48	1.82	1.82



Units = Unless

Check	[S1] 13..Overall	Load Group	LG1..Overall
Parameter	Absolute Uf Overall	Selection	Component '3..s1.AISC360 selection'
Version	2..Isometric		