



Tutorial

Report Designer

Updated on: 29 November 2023

Tested with: SDC Verifier 2023 R2

Report designer gives a possibility to completely control the structure of your report and easily preview and modify it.

This tutorial demonstrates how to build reports using the Report Designer:

- Open predefined project;
- Model Setup Report (First Page, Preface, Materials, Properties, Fem Loads and Constraints);
- Result Report (Content items, Predefined Tables, Add Plots and Tables);
- Number Format, Legend Settings;
- Tables and Plots for Static Stress Check.

Open Project

1

Launch SDC Verifier

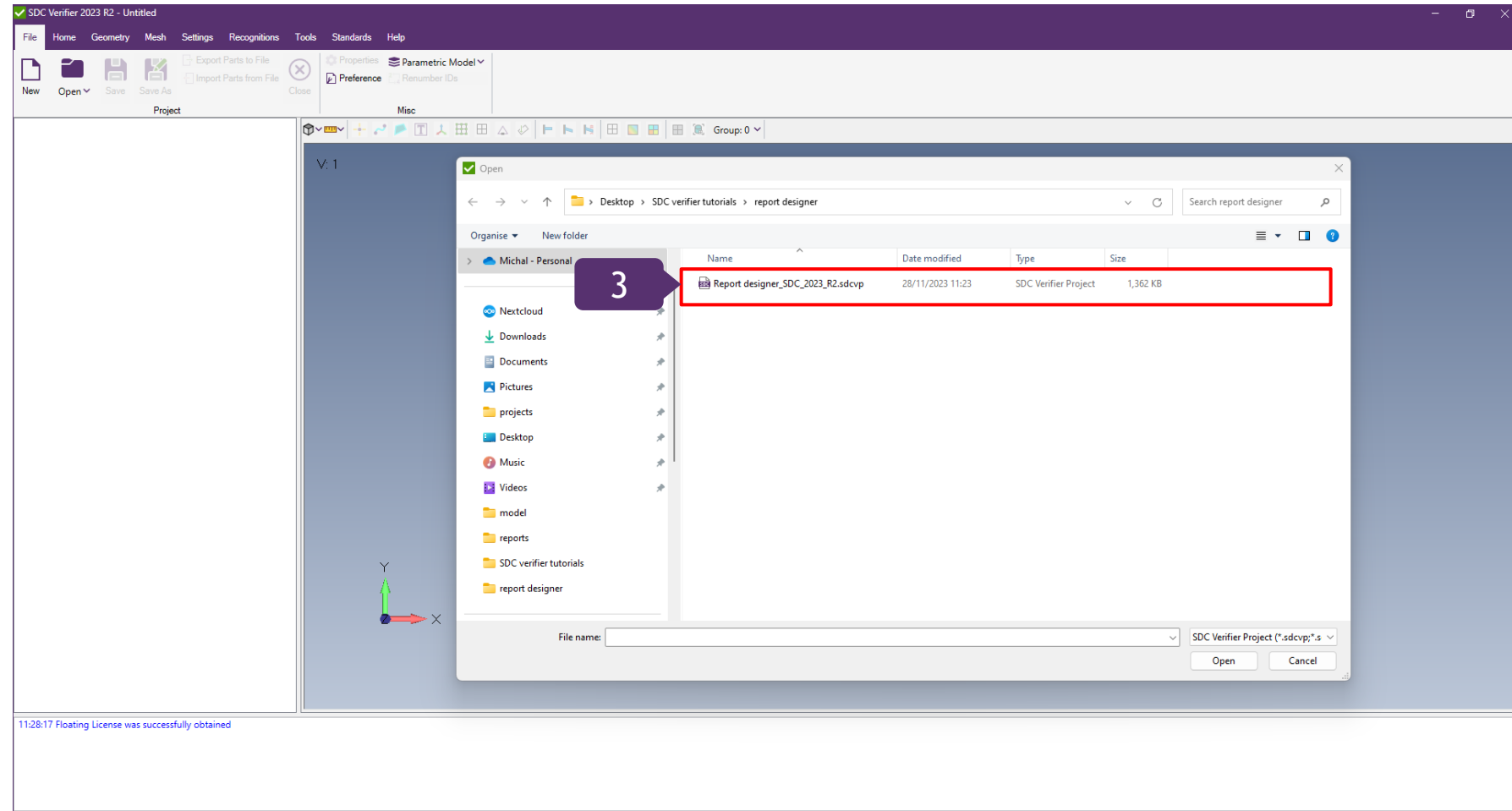


2

Execute **File - Open Project**

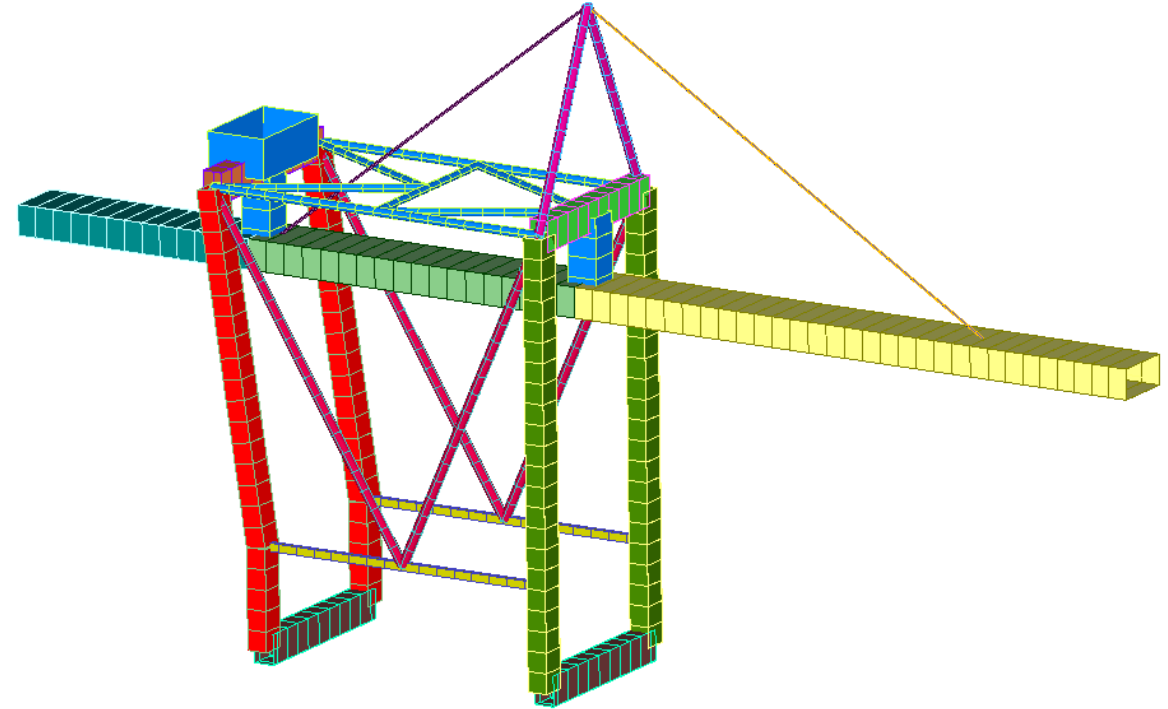
3

Project: Report designer.sdcvp




- ▶ Views (2)
- ▶ Model
- ▶ Recognition
- ▶ Jobs (1)
 - ▶ 1..Static Structural
 - ▶ Individual Loads (13)
 - 1..gravity
 - 2..tip load
 - 3..middle_bridge
 - 4..back side
 - 5..at_forestay
 - 6..at_hinge_point
 - 7..Trolley_ride
 - 8..tip side_load
 - 9..middle_bridge_side_load
 - 10..back side_side_load
 - 11..at_forestay_side_load
 - 12..at_hinge_point_side_load
 - 13..Crane_ride
 - ▶ Load Sets (20)
 - ▶ Load Groups (1)
 - FG Fatigue Groups (0)
 - Tables (0)
 - Plots (0)
- ▶ Tools
- ▶ Standards (1)
- ▶ Post-Processing
- ▶ Optimizations (0)
- ▶ Reports (2)

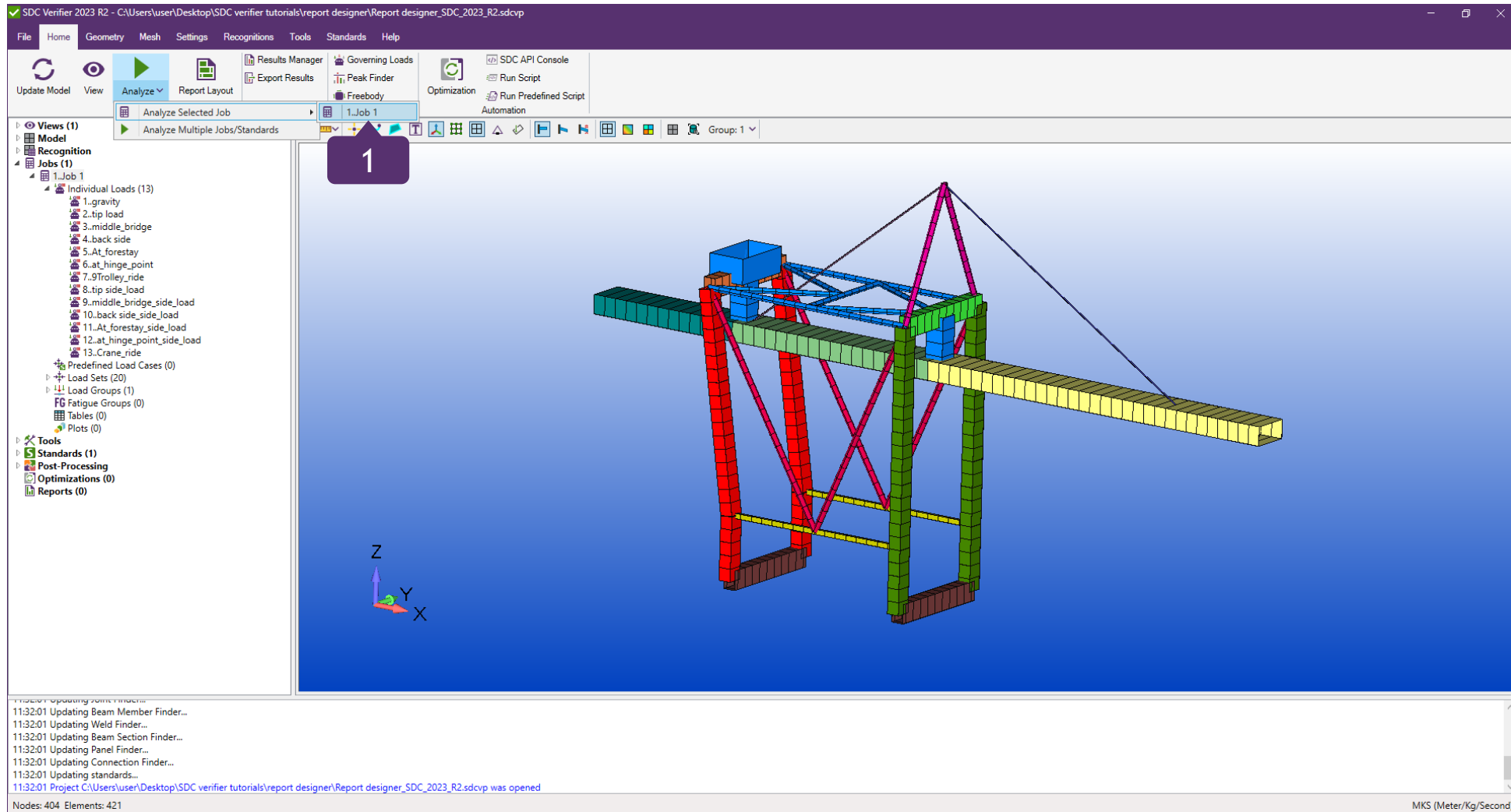
V: 2
L: 26
C: 4




This tutorial uses predefined project with the following created data: individual loads, loadsets, load groups and static stress check. The focus of this tutorial is on creating report.

1

Press  and select **Analyze active job: 1..Job 1**

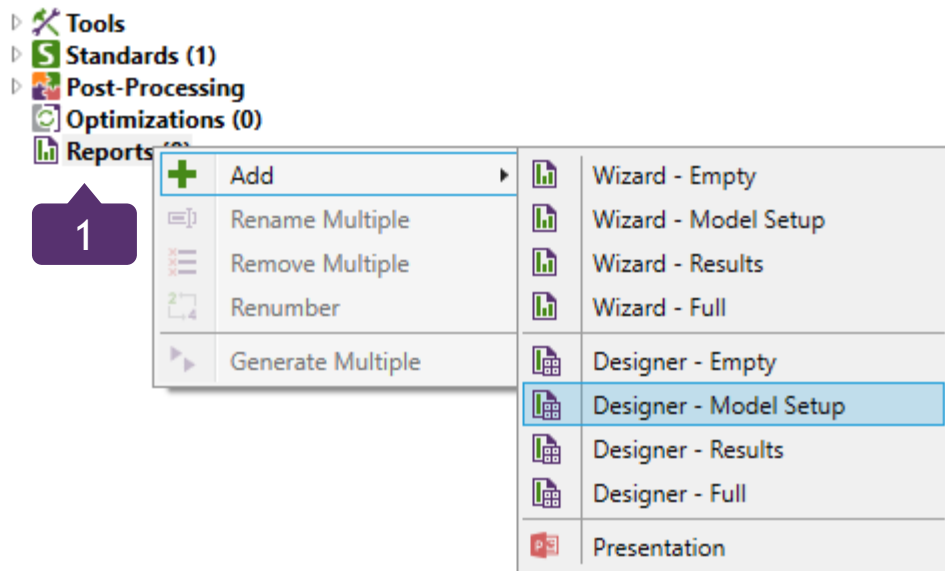


1

Press right mouse button  Reports (0)

2

Execute *Add - Model Setup*



There are 4 templates of reports:

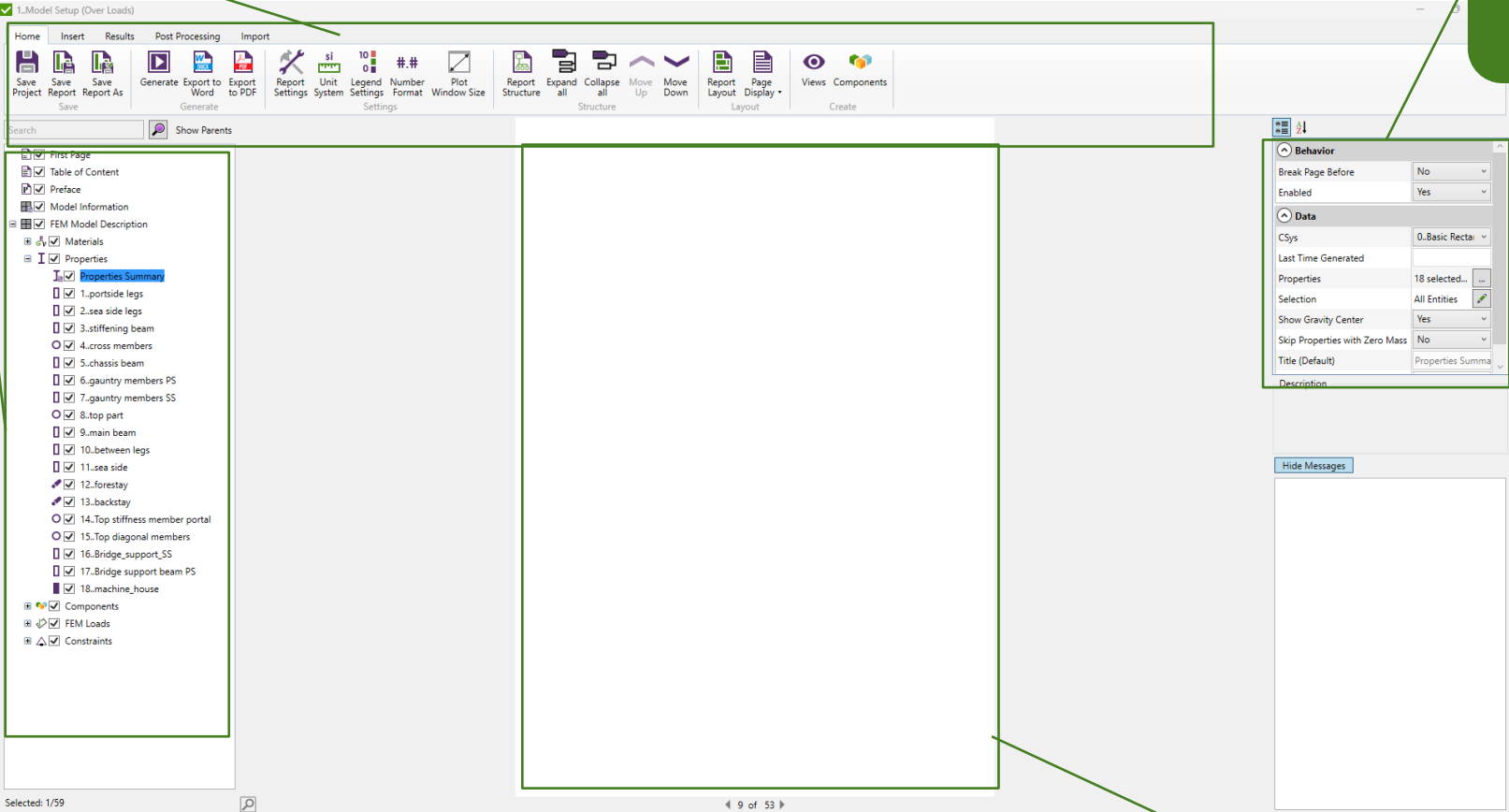
- Empty - only first page and preface items are included;
- Model Setup - description of model data (materials, properties, components) is included;
- Results - for each load extreme displacement tables, stress and displacement plots are included.
- Predefined tables: sum of reaction forces, stresses/displacements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

Report Designer Interface (Components)

Toolbar contains main functions

Displays properties of selected item. It is possible to modify them.

Report Structure - displays structure of the report



Report document

1

Execute **Edit** from First Page context menu

2

Press  and select Support Engineer from the library

3


Press  and select Customer from the library

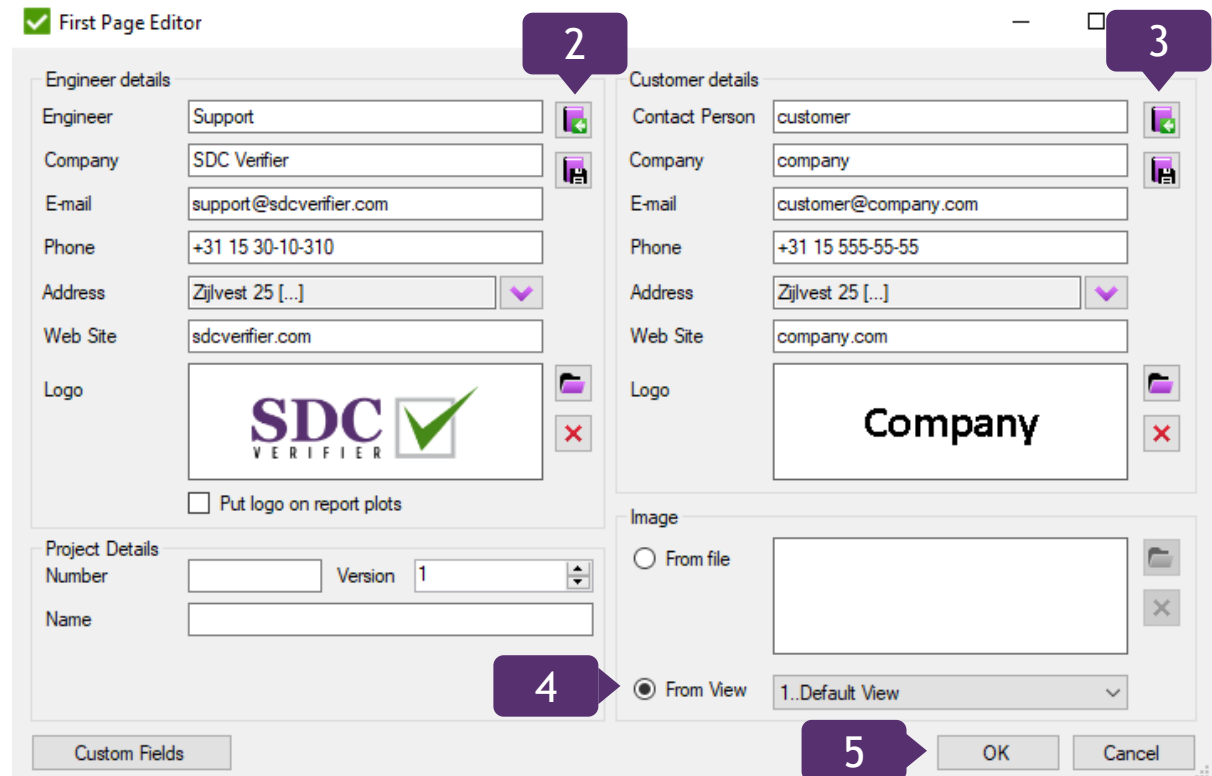
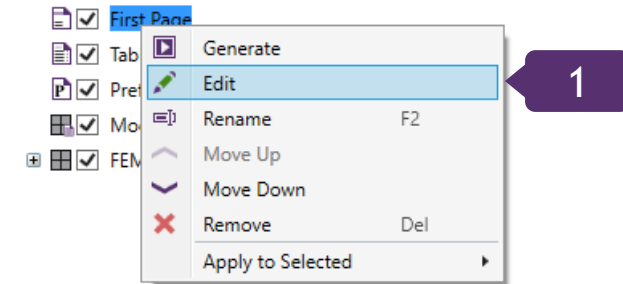
4

Image - From View: **Selected**

5

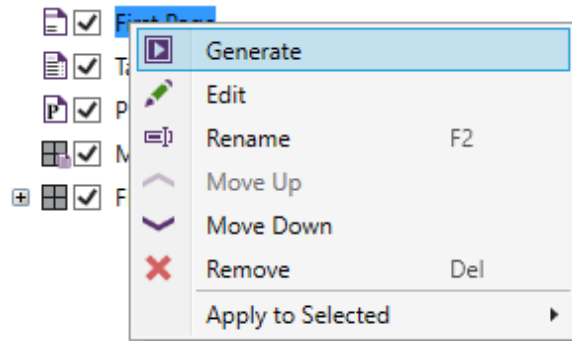
Press **OK**.

For an engineer and customer the default data from the library is used. It is possible to fill in your data and store it to the library  and reuse it in future projects.

A screenshot of the 'First Page Editor' dialog box. The dialog is divided into two main sections: 'Engineer details' and 'Customer details'. The 'Engineer details' section includes fields for Engineer (Support), Company (SDC Verifier), E-mail (support@sdcverifier.com), Phone (+31 15 30-10-310), Address (Zijlvest 25 [...]), Web Site (sdcverifier.com), and Logo (SDC Verifier logo). The 'Customer details' section includes fields for Contact Person (customer), Company (company), E-mail (customer@company.com), Phone (+31 15 555-55-55), Address (Zijlvest 25 [...]), Web Site (company.com), and Logo (Company logo). Below these sections are 'Project Details' (Number, Version 1, Name) and an 'Image' section with radio buttons for 'From file' and 'From View' (selected, showing '1..Default View'). At the bottom are 'Custom Fields', 'OK', and 'Cancel' buttons. Numbered callouts are present: '2' points to the 'Engineer' field, '3' points to the 'Customer' field, '4' points to the 'From View' radio button, and '5' points to the 'OK' button.

1

Execute **Generate** from First Page context menu



Company name and logo from engineer and customer are used in footer. All pages except first one have the footer.

Report in designer does not contain headers and footers, they are inserted when export to Word Document.

<https://sdcverifier.com>

Prepared by
SDC Verifier

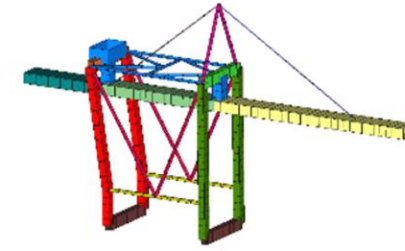


Prepared for
company

Company



Model Setup



Prepared by:

SDC Verifier

+31 15 30-10-310

sdcverifier.com

Zijlvest 25
2011 VB Haarlem
The Netherlands

Prepared for:

company

+31 15 555-55-55

company.com

Zijlvest 25
2011 VB Haarlem
The Netherlands

Engineer:

Customer:

Project Number:

Version:

Date:

Support

customer

1

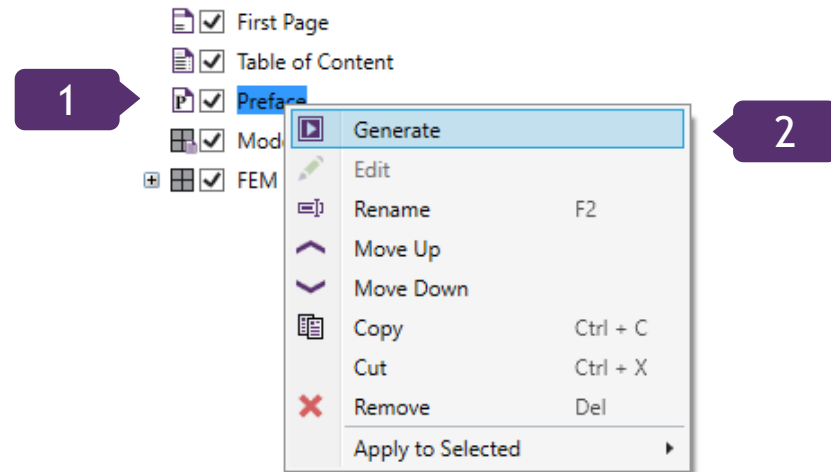
07/06/2023

1

Select **Preface** item in report structure

2

Execute **Generate** from context menu



In first paragraph you can find what versions of SDC Verifier and Femap were used, full path to the model and project files and based on what profile report was generated.

Description on current unit system. It has an influence on calculations according to some standards.

Preface

This document is generated with SDC Verifier 2023.1 and calculated with Femap v2022.2
Model File: C:\Users\Engineer\Desktop\Report_Wizard_Tutorial\Crane_Model.modfem
Project File: C:\Users\Engineer\Desktop\Report_Wizard_Tutorial\Report_Wizard_Tutorial.sdcv
Report Profile: 1...Model Setup
Generation on: 6/7/2023 5:11:11 PM

Unit System

Current Unit System = MKS (Meter/Kg/Second). It is used in calculations for the following standards: API RP 2A, ISO 19902, Norsok N004, DIN 15018, FEM 1.001 and Eurocode3.

Dimensions	Value
Length	Meter
Mass	Kilogram
Time	Second
Force	Newton
Stress	Pa

For further questions on the program contact us:
tel: +31 15 30 10 310
email: support@sdcverifier.com
Zijlvest 25
2011VB Haarlem
Netherlands

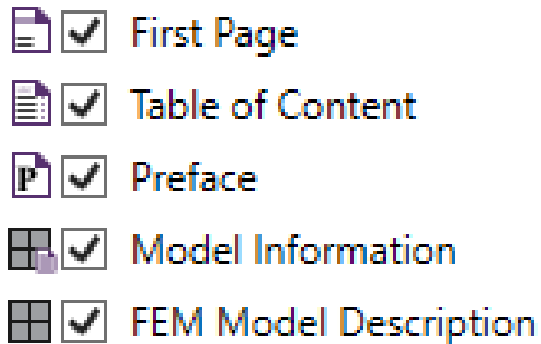
1

Select **Model Information** item in report structure

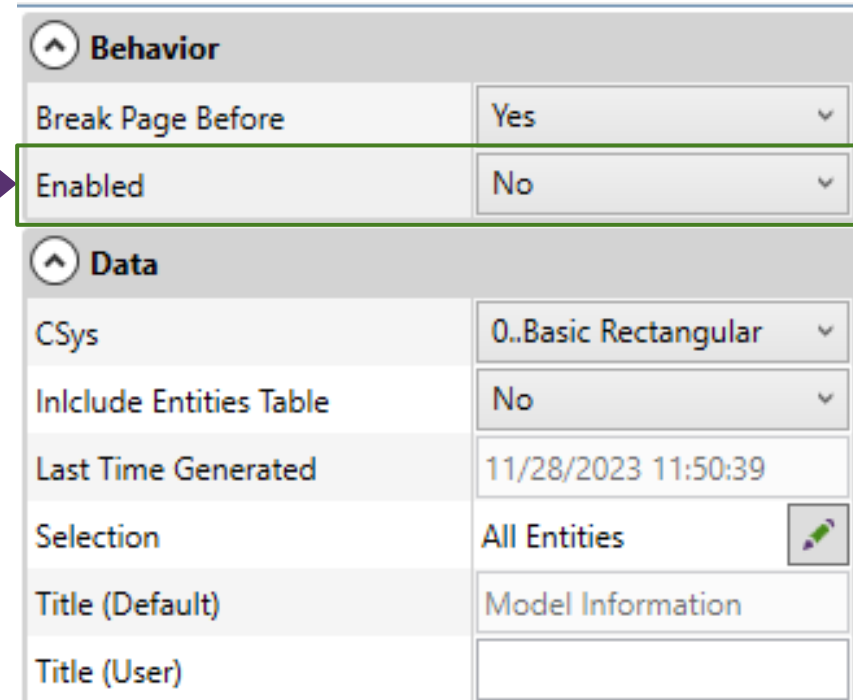
2

Set option Enabled: **No** in property toolbox

Model Information (with all sub items) are excluded from the report. The Model Information item will not be generated but remains in the report structure. Alternatively, it is possible to delete item from the context menu or using DEL button on keyboard.



2



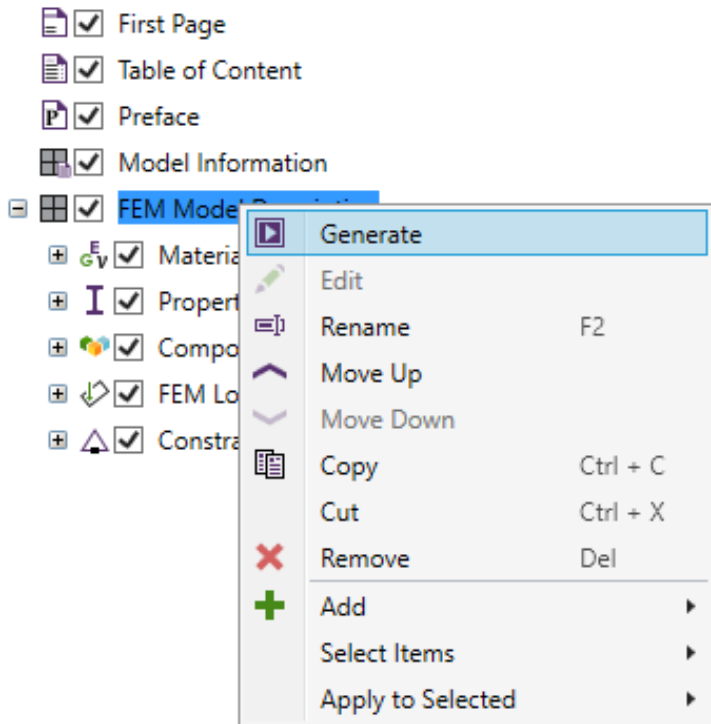
Behavior	
Break Page Before	Yes
Enabled	No
Data	
CSys	0..Basic Rectangular
Include Entities Table	No
Last Time Generated	11/28/2023 11:50:39
Selection	All Entities
Title (Default)	Model Information
Title (User)	

1

Select **FEM Model Description** item in report structure

2

Execute **Generate** from context menu



FEM Model Description

This paragraph shows detailed or brief model overview.

Materials

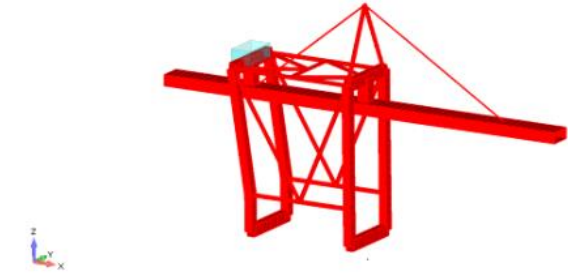
This paragraph contains materials information.

Materials Summary

Title	Elements	Mass [kg]	Mass Density [kg/m ³]	Gravity Center [m]
1..Structural Steel	420	1937142.8	9,812.50	[-13.85; 0.00; 34.29]
2..Machine_house	1	79999.9	333.33	[-35.48; 0.00; 52.00]
Overall	421	2017142.7		[-14.70; 0.00; 35.00]

1..Structural steel

Property	Value
Elements	420
Mass [kg]	1937142.8
Gravity Center [m]	[-13.85; 0.00; 34.29]
Young Modulus [Pa]	2.10e+11
Shear Modulus [Pa]	0
Poisson Ratio	0.30
Shear [Pa]	0
Mass Density [kg/m ³]	9812.50
Tensile Strength [Pa]	360.00e+6
Yield Stress [Pa]	240.00e+6

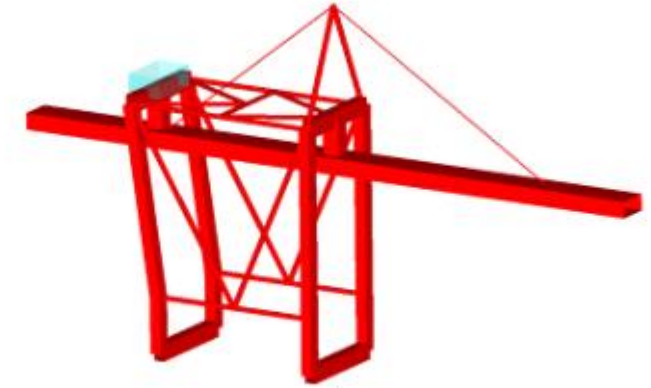


Material Summary - mass overview over materials

Detailed Material description with plots

Select Material: **1..Structural Steel**
in report structure

Preview Mode: *Display Only Selected*



Create View

1

Press  to open **View Manager**

2

Press  to add View

3

Title: **Isometric with filled edges.**

4

Locate View in Mechanical as shown on picture

5

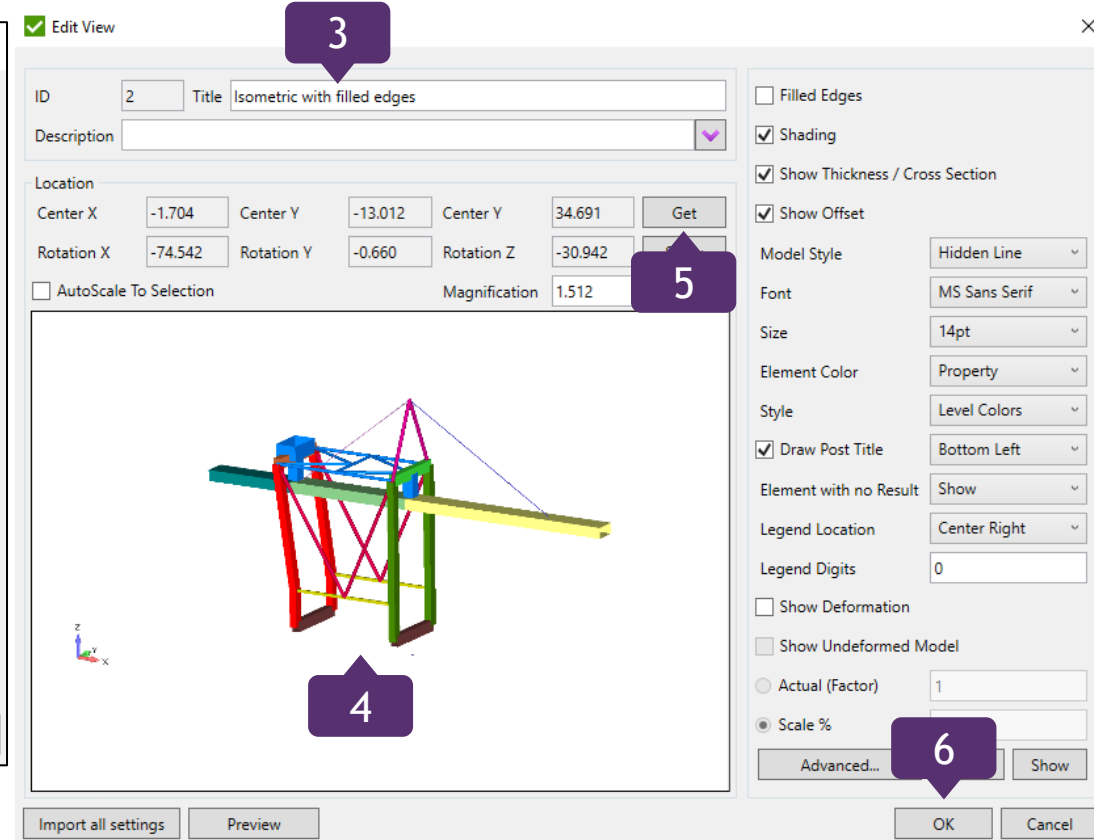
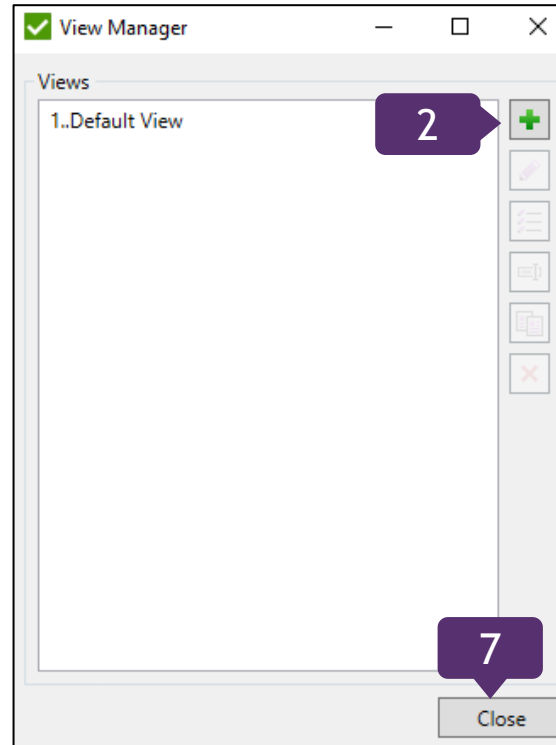
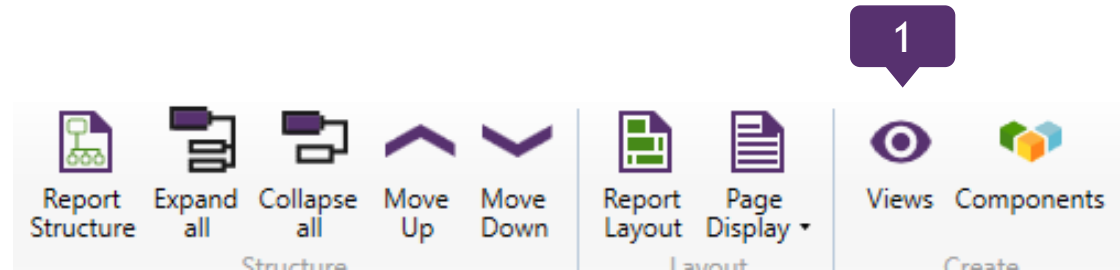
Press **Get**

6

Press **OK**

7

Press **Close**



Apply View to Properties

1

Select **Properties** in report structure

2

Execute **Select items - All Levels - All**

3

Execute **Apply to selected - Views**

4

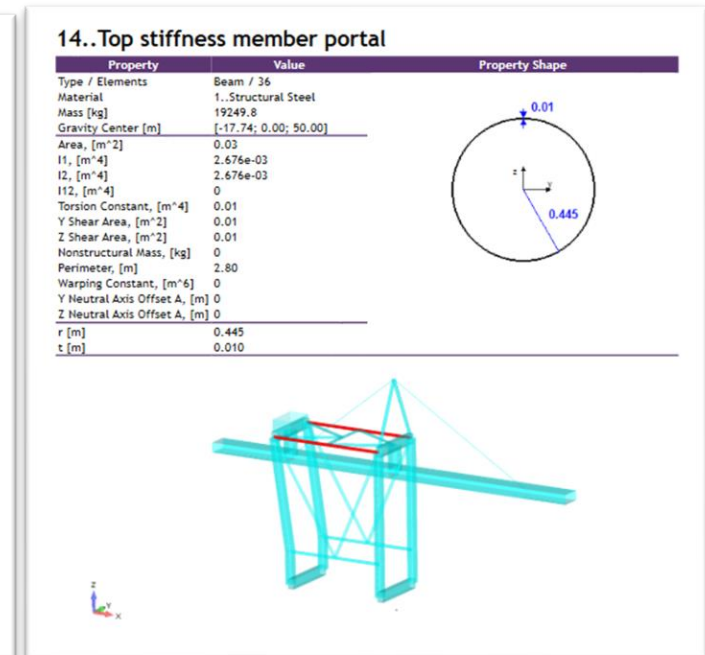
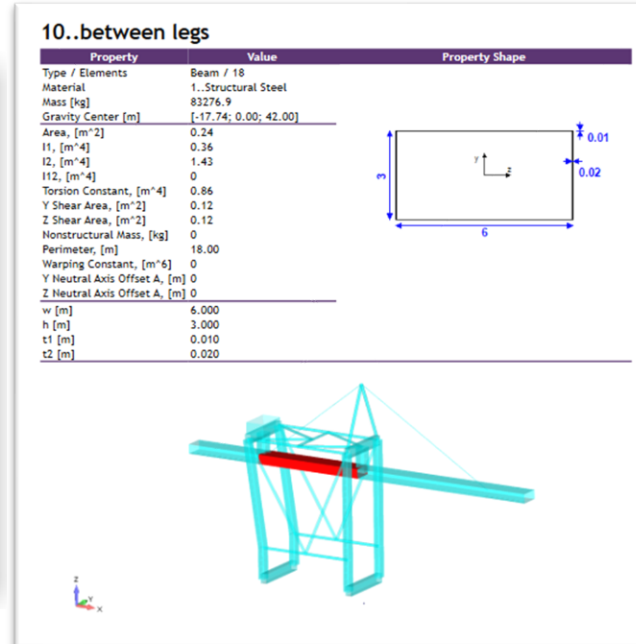
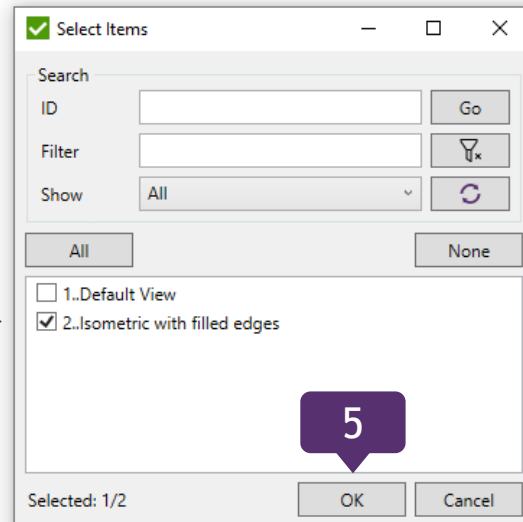
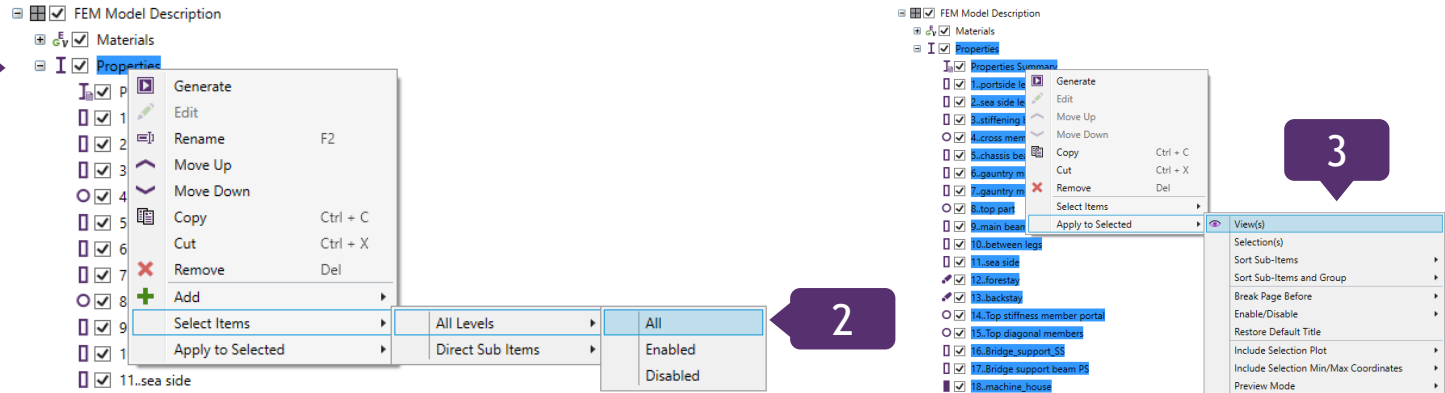
Select **Isometric with filled edges**

5

Press **Ok**

6

Press **Generate**

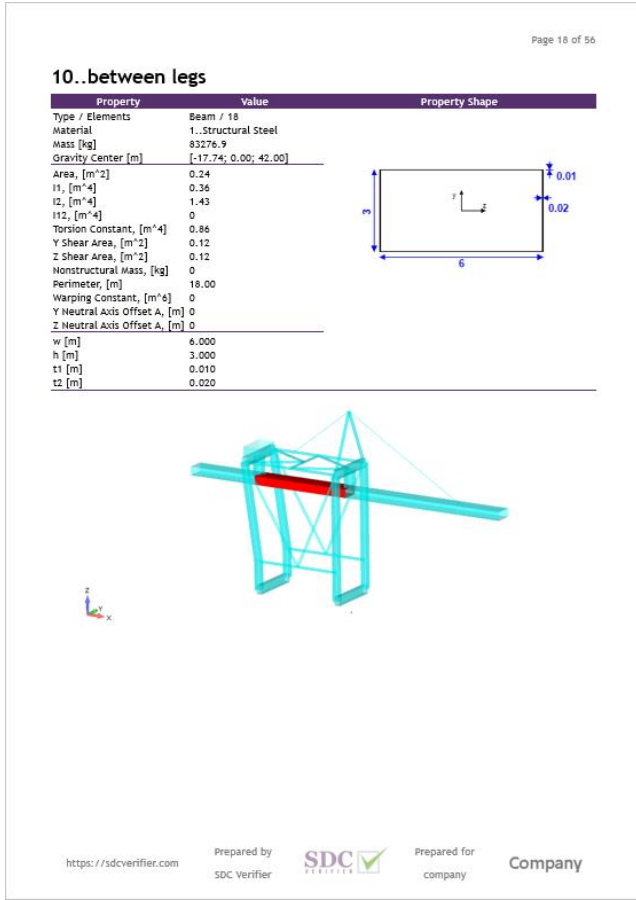
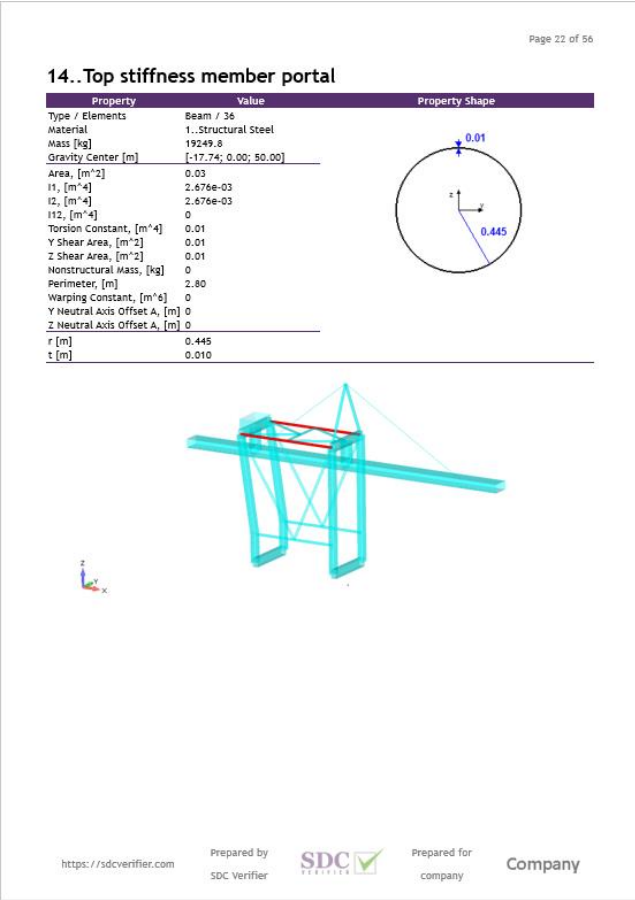
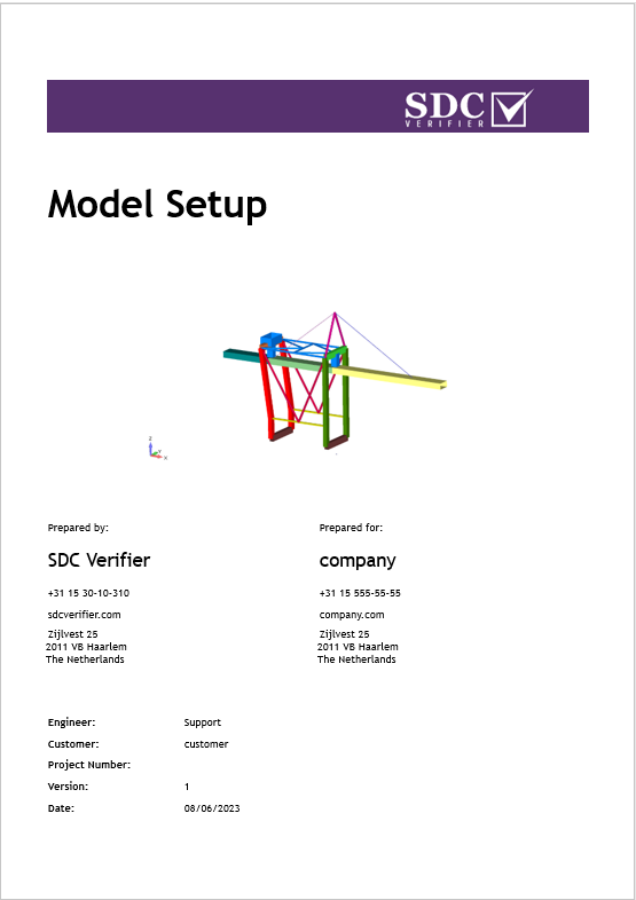
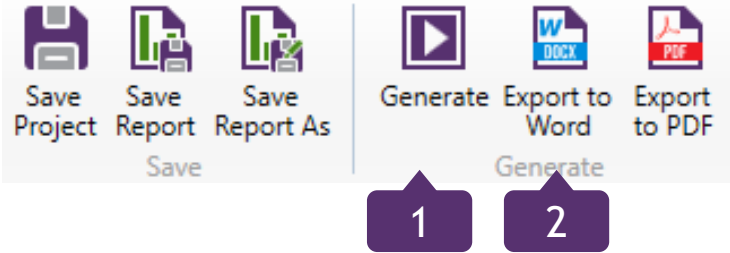


1

Press  to generate report

2

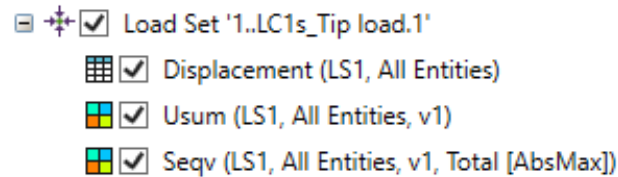
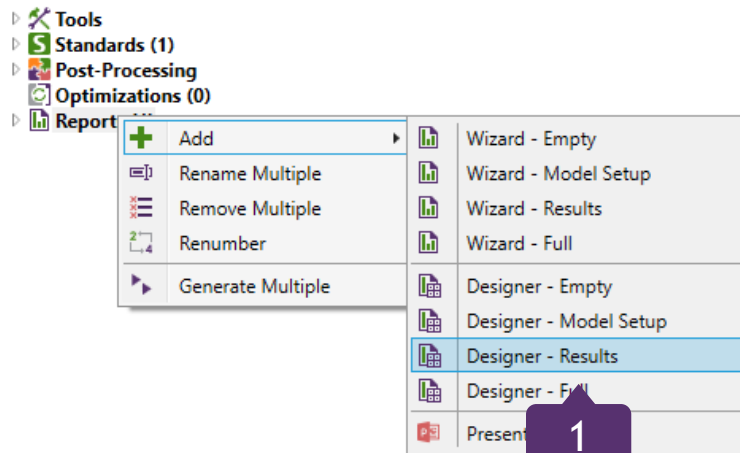
Press  to export report to Word



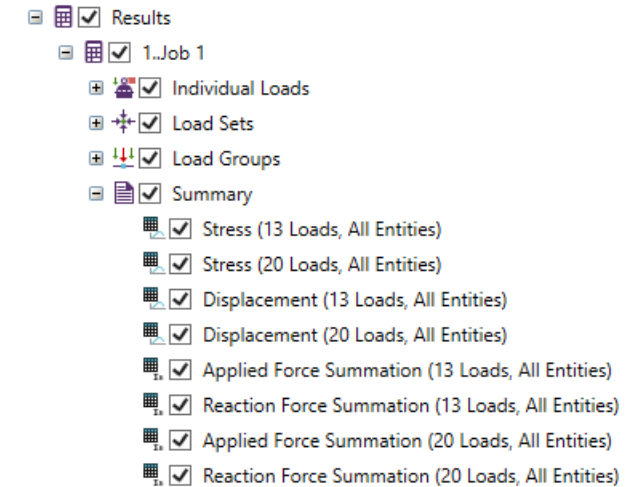
1

Execute **Report - Add - Designer - Results** from report context menu

Result report includes predefined items



For each load extreme displacement table, displacement and stress plots are created



For individual loads and load sets the following summary tables are included: applied and reaction forces summation, displacement and stresses over loads

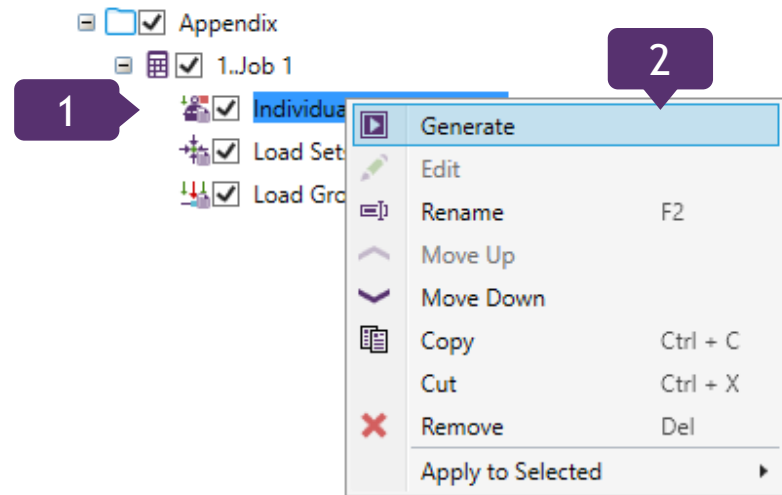
1

Select **Individual Loads Content** under Appendix item in report structure

2

Execute **Generate** from context menu

Content shows the list of Individual loads and referenced step.



Individual Loads Content

Individual Load [Safety Factor]	FemLoad / Output Set	Constraint
1..gravity [1]	1..gravity	4..Bogie_simple
2..tip load [1]	2..tip load	4..Bogie_simple
3..middle_bridge [1]	3..middle_bridge	4..Bogie_simple
4..back side [1]	4..back side	4..Bogie_simple
5..At_forestay [1]	5..At_forestay	4..Bogie_simple
6..at_hinge_point [1]	6..at_hinge_point	4..Bogie_simple
7..9Trolley_ride [1]	7..9Trolley_ride	4..Bogie_simple
8..tip side_load [1]	8..tip side_load	4..Bogie_simple
9..middle_bridge_side_load [1]	9..middle_bridge_side_load	4..Bogie_simple
10..back side_side_load [1]	10..back side_side_load	4..Bogie_simple
11..At_forestay_side_load [1]	11..At_forestay_side_load	4..Bogie_simple
12..at_hinge_point_side_load [1]	12..at_hinge_point_side_load	4..Bogie_simple
13..Crane_ride [1]	13..Crane_ride	4..Bogie_simple

Load Set Content

1

Select **Content** under **Load Sets** item in report structure

2

In Toolbox for **All Load Sets** choose **No**

3

Select **Load Sets** and press 

4

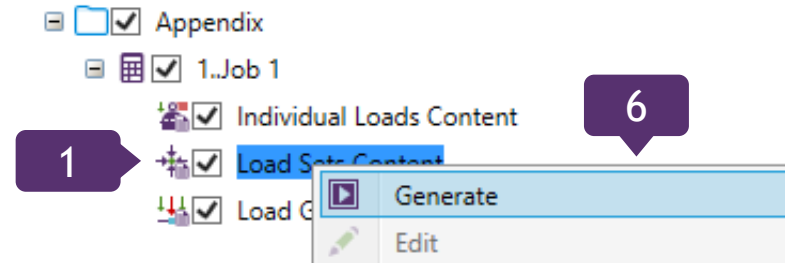
In menu **Select Items** select all load sets what should be displayed and press **All**

5

Press **OK**

6

Select **Load Sets Content** and Execute **Generate**



Load Sets Content		
Title [Safety Factor]	Count	Items [Partial Load Factor]
1..LC1s_Tip load.1 [1]	5	1..gravity [1.15] 2..tip load [1.35] 7..9Trolley_ride [1.15] 8..tip side_load [1.15] 13..Crane_ride [1.15]
2..LC1s_Tip load.2 [1]	5	1..gravity [1.15] 2..tip load [1.35] 7..9Trolley_ride [1.15] 8..tip side_load [1.15] 13..Crane_ride [1.15]
3..LC1s_Tip load.3 [1]	5	1..gravity [1.15] 2..tip load [1.35] 7..9Trolley_ride [1.15] 8..tip side_load [1.15] 13..Crane_ride [1.15]
4..LC1s_Tip load.4 [1]	5	1..gravity [1.15] 2..tip load [1.35] 7..9Trolley_ride [1.15] 8..tip side_load [1.15] 13..Crane_ride [1.15]
5..LC1s_Middle Bridge.1 [1]	5	1..gravity [1.15] 3..middle_bridge [1.35] 7..9Trolley_ride [1.15] 9..middle_bridge_side_load [1.15] 13..Crane_ride [1.15]
6..LC1s_Middle Bridge.2 [1]	5	1..gravity [1.15] 3..middle_bridge [1.35] 7..9Trolley_ride [1.15] 9..middle_bridge_side_load [1.15] 13..Crane_ride [1.15]
7..LC1s_Middle Bridge.3 [1]	5	1..gravity [1.15] 3..middle_bridge [1.35] 7..9Trolley_ride [1.15] 9..middle_bridge_side_load [1.15] 13..Crane_ride [1.15]
8..LC1s_Middle Bridge.4 [1]	5	1..gravity [1.15] 3..middle_bridge [1.35] 7..9Trolley_ride [1.15] 9..middle_bridge_side_load [1.15] 13..Crane_ride [1.15]
9..LC1s_Backside.1 [1]	5	1..gravity [1.15] 4..back side [1.35] 7..9Trolley_ride [1.15] 10..back side_side_load [1.15] 13..Crane_ride [1.15]
10..LC1s_Backside.2 [1]	5	1..gravity [1.15] 4..back side [1.35] 7..9Trolley_ride [1.15] 10..back side_side_load [1.15] 13..Crane_ride [1.15]
11..LC1s_Backside.3 [1]	5	1..gravity [1.15] 4..back side [1.35] 7..9Trolley_ride [1.15] 10..back side_side_load [1.15] 13..Crane_ride [1.15]
12..LC1s_Backside.4 [1]	5	1..gravity [1.15] 4..back side [1.35] 7..9Trolley_ride [1.15] 10..back side_side_load [1.15] 13..Crane_ride [1.15]

13..LC1s_At_forestay.1 [1]	5	1..gravity [1.15] 5..At_forestay [1.35] 7..9Trolley_ride [1.15] 11..At_forestay_side_load [1.15] 13..Crane_ride [1.15]
14..LC1s_At_forestay.2 [1]	5	1..gravity [1.15] 5..At_forestay [1.35] 7..9Trolley_ride [1.15] 11..At_forestay_side_load [1.15] 13..Crane_ride [1.15]
15..LC1s_At_forestay.3 [1]	5	1..gravity [1.15] 5..At_forestay [1.35] 7..9Trolley_ride [1.15] 11..At_forestay_side_load [1.15] 13..Crane_ride [1.15]
16..LC1s_At_forestay.4 [1]	5	1..gravity [1.15] 5..At_forestay [1.35] 7..9Trolley_ride [1.15] 11..At_forestay_side_load [1.15] 13..Crane_ride [1.15]
17..LC1s_at_hinge_point.1 [1]	5	1..gravity [1.15] 6..at_hinge_point [1.35] 7..9Trolley_ride [1.15] 12..at_hinge_point_side_load [1.15] 13..Crane_ride [1.15]
18..LC1s_at_hinge_point.2 [1]	5	1..gravity [1.15] 6..at_hinge_point [1.35] 7..9Trolley_ride [1.15] 12..at_hinge_point_side_load [1.15] 13..Crane_ride [1.15]
19..LC1s_at_hinge_point.3 [1]	5	1..gravity [1.15] 6..at_hinge_point [1.35] 7..9Trolley_ride [1.15] 12..at_hinge_point_side_load [1.15] 13..Crane_ride [1.15]
20..LC1s_at_hinge_point.4 [1]	5	1..gravity [1.15] 6..at_hinge_point [1.35] 7..9Trolley_ride [1.15] 12..at_hinge_point_side_load [1.15] 13..Crane_ride [1.15]

Behavior

Break Page Before: Yes

Enabled: Yes

Data

All Load Sets: No

Last Time Generated: 11/28/2023 12:31:25

Load Sets: 20 selected...

Title (Default): Load Sets Content

Title (User):

☒ Select Items

Search: Go

Filter: Filter

Show: All

☒ 1..LC1s_Tip load.1

☒ 2..LC1s_Tip load.2

☒ 3..LC1s_Tip load.3

☒ 4..LC1s_Tip load.4

☒ 5..LC1s_Middle Bridge.1

☒ 6..LC1s_Middle Bridge.2

☒ 7..LC1s_Middle Bridge.3

☒ 8..LC1s_Middle Bridge.4

☒ 9..LC1s_Backside.1

☒ 10..LC1s_Backside.2

☒ 11..LC1s_Backside.3

☒ 12..LC1s_Backside.4

☒ 13..LC1s_At_forestay.1

☒ 14..LC1s_At_forestay.2

☒ 15..LC1s_At_forestay.3

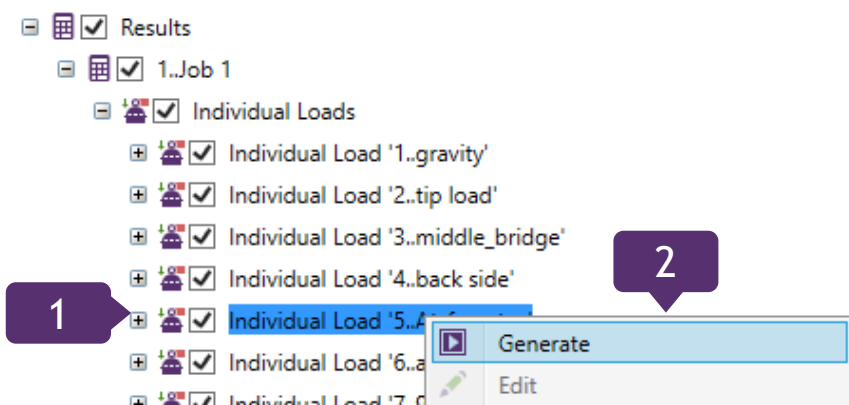
☒ 16..LC1s_At_forestay.4

Selected: 20/20

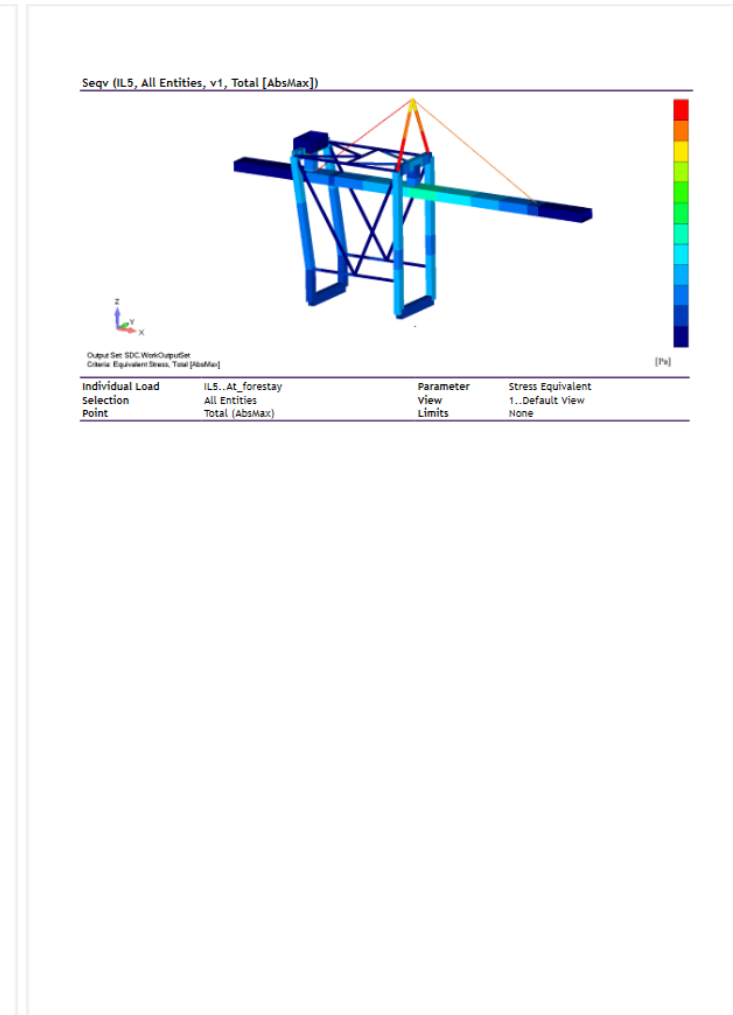
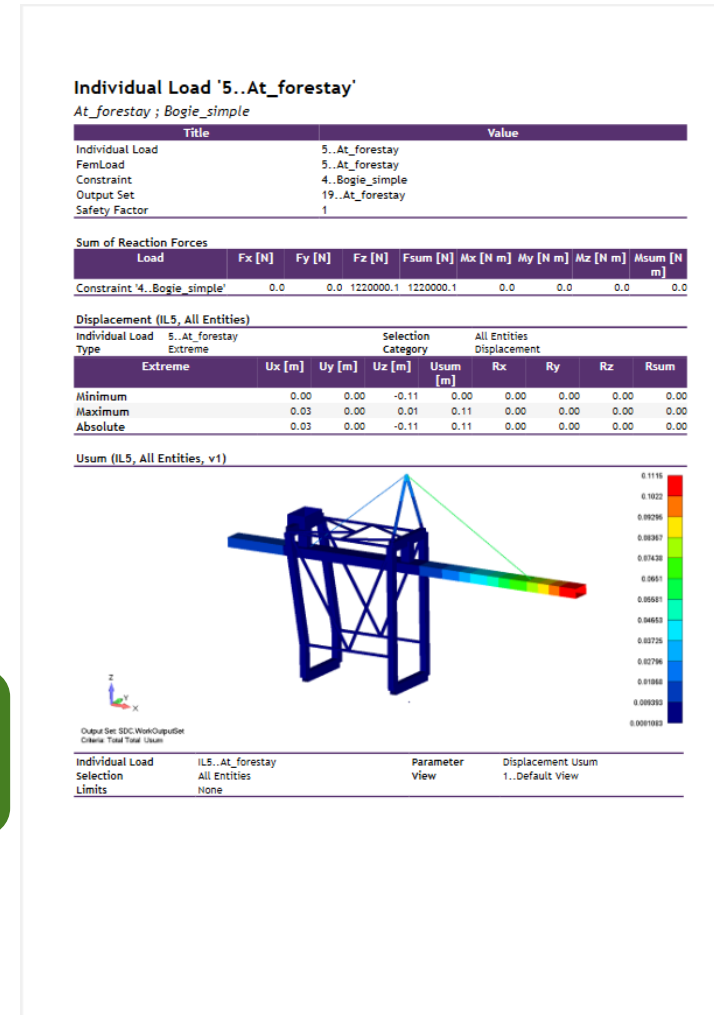
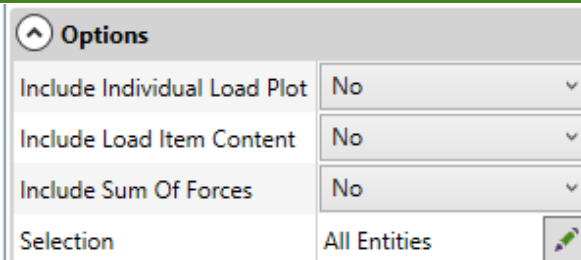
OK Cancel

1 Select **5..at_forestay** in report structure

2 Execute **Generate** from context menu



Individual Load includes Content and Sum of Forces. It is possible to control what should be displayed using the Options.



Number Formats

1

Generate Displacement (All Entities) under load **5..at_forestay**

2

Press **##** to open **Number Formats**

3

Digits after decimal point: 2 for **Displacement** and **General** category

4

Press **Close** and repeat 1 step

Digits after decimal point = 2

Displacement (IL5, All Entities)

Individual Load Type	5..At_forestay Extreme	Selection Category				All Entities Displacement			
	Extreme	Ux [m]	Uy [m]	Uz [m]	Usum [m]	Rx	Ry	Rz	Rsum
Minimum		0.00	0.00	-0.11	0.00	0.00	0.00	0.00	0.00
Maximum		0.03	0.00	0.01	0.11	0.00	0.00	0.00	0.00
Absolute		0.03	0.00	-0.11	0.11	0.00	0.00	0.00	0.00

Digits after decimal point = 3

Displacement (IL5, All Entities)

Individual Load Type	5..At_forestay Extreme	Selection Category				All Entities Displacement			
	Extreme	Ux [m]	Uy [m]	Uz [m]	Usum [m]	Rx	Ry	Rz	Rsum
Minimum		0.000	-0.004	-0.114	0.000	-0.001	0.000	0.000	0.000
Maximum		0.030	0.004	0.013	0.114	0.001	0.002	0.000	0.002
Absolute		0.030	0.004	-0.114	0.114	-0.001	0.002	0.000	0.002

Individual Load '5..at_forestay'

Displacement (IL5, All Entities)

Usum (IL5, All Entities, v1)

Seqv (IL5, All Entities, v1)

Generate

Edit

Number Formats

Category	Type	Digits after decimal point	Fixed Power	Power Value	Example
Displacements	General	2	<input type="checkbox"/>		16000000.00
Stress	Scientific	2	<input checked="" type="checkbox"/>	6	160.00e+6
Strain	General	2	<input type="checkbox"/>		16000000.00
Utilization Factor	General	2	<input type="checkbox"/>		16000000.00
Buckling Factor	General	2	<input type="checkbox"/>		16000000.00
Forces	General	0	<input type="checkbox"/>		160000000
Coefficient	General	0	<input type="checkbox"/>		160000000
Scientific	General	2	<input type="checkbox"/>		16000000.00
General	General	2	<input type="checkbox"/>		16000000.00
Mass	General	1	<input type="checkbox"/>		160000000.0
Dimensions	General	3	<input type="checkbox"/>		160000000.000
Length	General	2	<input type="checkbox"/>		16000000.00
Area	General	2	<input type="checkbox"/>		16000000.00
Dimensions^3	General	2	<input type="checkbox"/>		16000000.00
Moment of Inertia	General	2	<input type="checkbox"/>		16000000.00
Dimensions^6	General	2	<input type="checkbox"/>		16000000.00
Number	General	0	<input type="checkbox"/>		160000000
Moments	General	1	<input type="checkbox"/>		160000000.0
Deflection	General	3	<input type="checkbox"/>		160000000.000

Number Format

☐ General

☒ Scientific

Set as Default

Digits after decimal point

Number Formats controls how numbers are displayed in tables for different categories. It is possible to save settings to library and reuse in another projects.

4

Close

1

Select *Seqv (All Entities. V1. Total)* table under load *5..at_forestay*

2

Press  to open *Legend Settings*

3

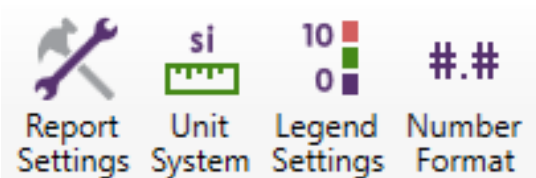
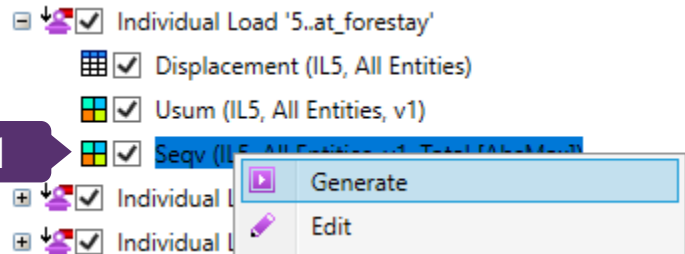
Max: *55000000* for Stress category


4

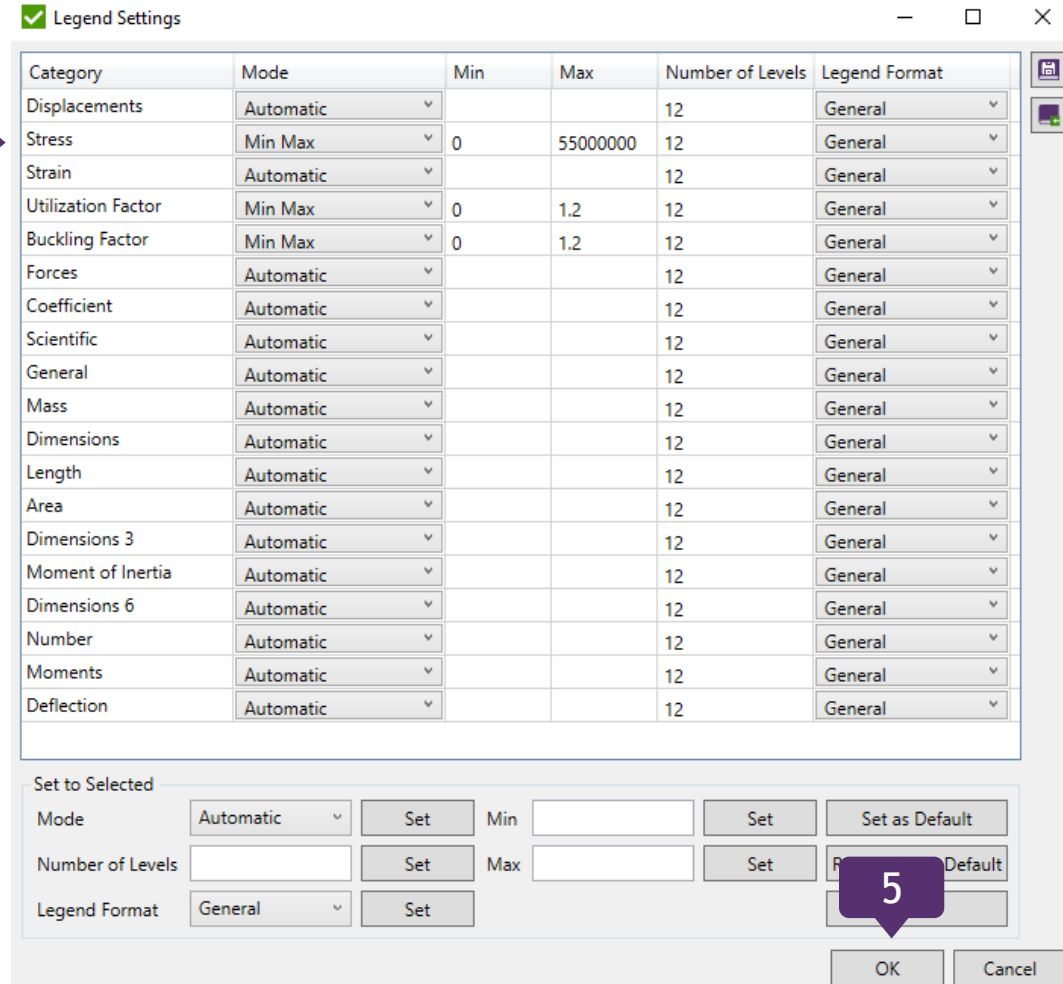
Press *Close*

5

Execute *Generate* from context menu



Legend Settings controls legend options for different categories. It is possible to save settings to the library and reuse in another projects. 



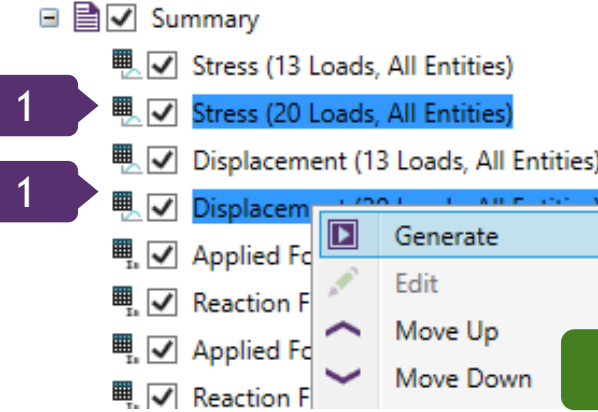
Stress and displacement tables over loads

1

Execute Abs **Displacement (LS)** under **Summary** item

2

In context menu select **Generate**



Stress and displacement extreme flow tables give nice results overview among loads.

Stresses for all load sets

Displacements for all load sets

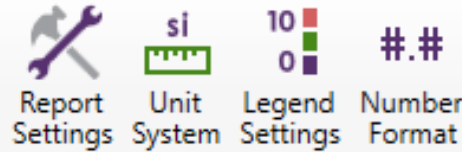
Stress (20 Loads, All Entities)

Loads Count	20	Category			Stress		
Selection	All Entities	Type			Extreme		
Parameter	Abs						
Load	X [Pa]	Y [Pa]	Z [Pa]	XY [Pa]	YZ [Pa]	ZX [Pa]	Equivalent [Pa]
LS1...LC1s_Tip load.1	-176.40e+6			-0.02e+6			176.40e+6
LS2...LC1s_Tip load.2	-176.40e+6			0.02e+6			176.40e+6
LS3...LC1s_Tip load.3	-172.95e+6			-0.02e+6			172.95e+6
LS4...LC1s_Tip load.4	-172.95e+6			0.02e+6			172.95e+6
LS5...LC1s_Middle Bridge.1	-113.16e+6			0.00e+6			113.16e+6
LS6...LC1s_Middle Bridge.2	-113.16e+6			0.00e+6			113.16e+6
LS7...LC1s_Middle Bridge.3	-115.13e+6			0.00e+6			115.13e+6
LS8...LC1s_Middle Bridge.4	-115.13e+6			0.00e+6			115.13e+6
LS9...LC1s_Backside.1	139.42e+6			0.00e+6			139.42e+6
LS10...LC1s_Backside.2	139.42e+6			0.00e+6			139.42e+6
LS11...LC1s_Backside.3	142.59e+6			0.00e+6			142.59e+6
LS12...LC1s_Backside.4	142.59e+6			0.00e+6			142.59e+6
LS13...LC1s_At_forestay.1	-148.02e+6			-0.01e+6			148.02e+6
LS14...LC1s_At_forestay.2	-148.02e+6			0.01e+6			148.02e+6
LS15...LC1s_At_forestay.3	-144.57e+6			-0.01e+6			144.57e+6
LS16...LC1s_At_forestay.4	-144.57e+6			0.01e+6			144.57e+6
LS17...LC1s_at_hinge_point.1	148.51e+6			-0.01e+6			148.51e+6
LS18...LC1s_at_hinge_point.2	148.39e+6			0.01e+6			148.39e+6
LS19...LC1s_at_hinge_point.3	145.20e+6			-0.01e+6			145.20e+6
LS20...LC1s_at_hinge_point.4	145.09e+6			0.01e+6			145.09e+6

Displacement (20 Loads, All Entities)

Loads Count	20	Category				Displacement			
Selection	All Entities	Type				Extreme			
Parameter	Abs								
Load	Ux [m]	Uy [m]	Uz [m]	Usum [m]	Rx	Ry	Rz	Rsum	
LS1...LC1s_Tip load.1	0.073	0.111	-0.352	0.369	-0.002	0.010	0.003	0.010	
LS2...LC1s_Tip load.2	0.073	-0.111	-0.352	0.369	0.002	0.010	-0.003	0.010	
LS3...LC1s_Tip load.3	0.059	0.111	-0.351	0.369	-0.002	0.010	0.003	0.010	
LS4...LC1s_Tip load.4	0.059	-0.111	-0.351	0.369	0.002	0.010	-0.003	0.010	
LS5...LC1s_Middle Bridge.1	-0.033	0.057	-0.079	0.098	-0.002	0.004	0.003	0.004	
LS6...LC1s_Middle Bridge.2	-0.033	-0.057	-0.079	0.098	0.002	0.004	-0.003	0.004	
LS7...LC1s_Middle Bridge.3	-0.044	0.057	-0.078	0.098	-0.002	0.004	0.003	0.004	
LS8...LC1s_Middle Bridge.4	-0.044	-0.057	-0.078	0.098	0.002	0.004	-0.003	0.004	
LS9...LC1s_Backside.1	-0.032	0.050	-0.144	0.152	-0.002	-0.005	-0.003	0.005	
LS10...LC1s_Backside.2	-0.032	-0.050	-0.144	0.152	0.002	-0.005	0.003	0.005	
LS11...LC1s_Backside.3	-0.043	0.050	-0.142	0.150	-0.002	-0.005	-0.003	0.005	
LS12...LC1s_Backside.4	-0.043	-0.050	-0.142	0.150	0.002	-0.005	0.003	0.005	
LS13...LC1s_At_forestay.1	0.059	0.100	-0.239	0.259	-0.002	0.004	0.003	0.004	
LS14...LC1s_At_forestay.2	0.059	-0.100	-0.239	0.259	0.002	0.004	-0.003	0.004	
LS15...LC1s_At_forestay.3	0.045	0.100	-0.238	0.259	-0.002	0.004	0.003	0.004	
LS16...LC1s_At_forestay.4	0.045	-0.100	-0.238	0.259	0.002	0.004	-0.003	0.004	
LS17...LC1s_at_hinge_point.1	-0.032	0.067	-0.089	0.111	-0.002	0.004	0.003	0.004	
LS18...LC1s_at_hinge_point.2	-0.032	-0.067	-0.089	0.112	0.002	0.004	-0.003	0.004	
LS19...LC1s_at_hinge_point.3	-0.044	0.067	-0.088	0.111	-0.002	0.004	0.003	0.004	
LS20...LC1s_at_hinge_point.4	-0.044	-0.067	-0.088	0.112	0.002	0.004	-0.003	0.004	

Reaction Forces



Number format from general is changed to scientific with fixed power = 3. The numbers became more readable.

1

Select **Reaction Forces Summation** under **Summary**

2

Press **##** to open Number Format

3

Select category **Forces**

4

Set next settings for **Force**

5

Press **Set Format** and **Close**

6

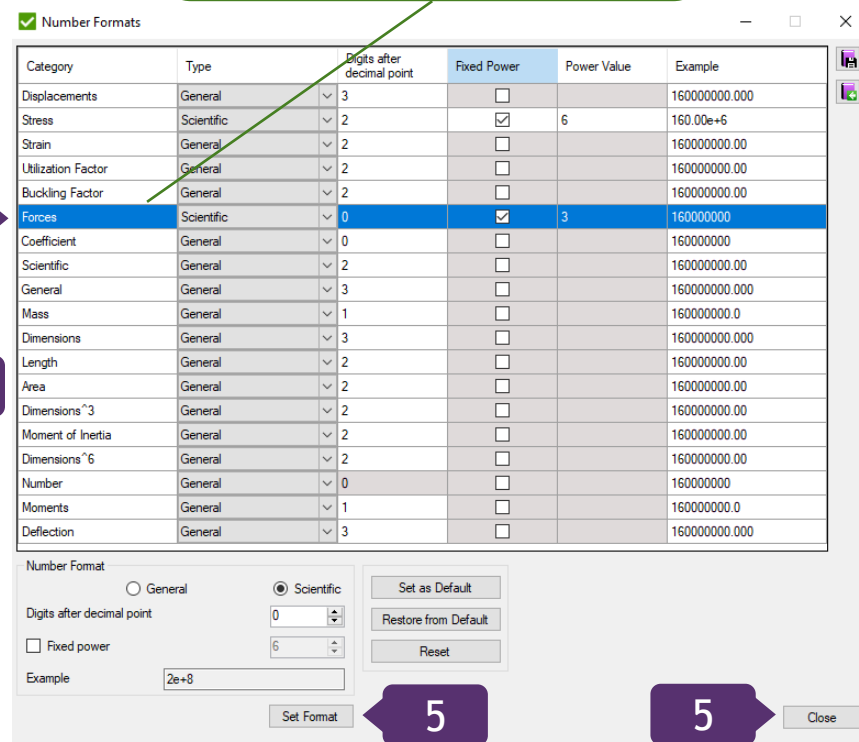
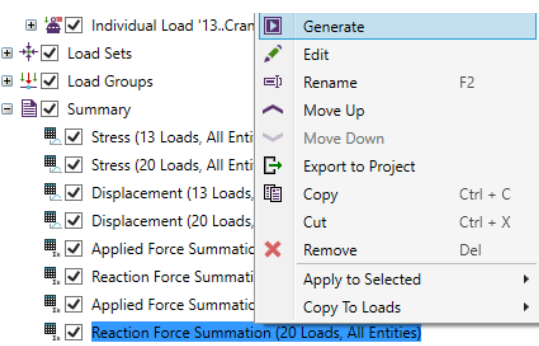
Repeat step 1 and press **Generate**

Type: Scientific
Digits after decimal point: 0
Fixed Power: ON
Fixed Power Value: 3

4

3

6



5

5

Reaction Force Summation (20 Loads, All Entities)

Loads Count	20	Category		Reaction Force						
Selection	All Entities	Type	Expand							
Load	Fx [N]	Fy [N]	Fz [N]	Fsum [N]	Mx [N m]	My [N m]	Mz [N m]	Msum [N m]		
LS1...LC1s_Tip load.1	-223100.0	-635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS2...LC1s_Tip load.2	-223100.0	635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS3...LC1s_Tip load.3	223100.0	-635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS4...LC1s_Tip load.4	223100.0	635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS5...LC1s_Middle Bridge.1	-223100.0	-635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS6...LC1s_Middle Bridge.2	-223100.0	635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS7...LC1s_Middle Bridge.3	223100.0	-635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS8...LC1s_Middle Bridge.4	223100.0	635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS9...LC1s_Backside.1	-223100.0	-635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS10...LC1s_Backside.2	-223100.0	635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS11...LC1s_Backside.3	223100.0	-635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS12...LC1s_Backside.4	223100.0	635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS13...LC1s_At_forestay.1	-223100.0	-635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS14...LC1s_At_forestay.2	-223100.0	635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS15...LC1s_At_forestay.3	223100.0	-635703.5	24403394.0	24412692.0	0.0	0.0	0.0	0.0	0.0	0.0
LS16...LC1s_At_forestay.4	223100.0	635703.5	24403396.0	24412694.0	0.0	0.0	0.0	0.0	0.0	0.0
LS17...LC1s_at_hinge_point.1	-223100.0	-691478.5	26050396.0	26060526.0	0.0	0.0	0.0	0.0	0.0	0.0
LS18...LC1s_at_hinge_point.2	-223100.0	691478.5	26050394.0	26060524.0	0.0	0.0	0.0	0.0	0.0	0.0
LS19...LC1s_at_hinge_point.3	223100.0	-691478.5	26050396.0	26060526.0	0.0	0.0	0.0	0.0	0.0	0.0
LS20...LC1s_at_hinge_point.4	223100.0	691478.5	26050394.0	26060524.0	0.0	0.0	0.0	0.0	0.0	0.0

Default


Reaction Force Summation (20 Loads, All Entities)

Loads Count	20	Category		Reaction Force						
Selection	All Entities	Type	Expand							
Load	Fx [N]	Fy [N]	Fz [N]	Fsum [N]	Mx [N m]	My [N m]	Mz [N m]	Msum [N m]		
LS1...LC1s_Tip load.1	-2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS2...LC1s_Tip load.2	-2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS3...LC1s_Tip load.3	2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS4...LC1s_Tip load.4	2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS5...LC1s_Middle Bridge.1	-2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS6...LC1s_Middle Bridge.2	-2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS7...LC1s_Middle Bridge.3	2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS8...LC1s_Middle Bridge.4	2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS9...LC1s_Backside.1	-2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS10...LC1s_Backside.2	-2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS11...LC1s_Backside.3	2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS12...LC1s_Backside.4	2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS13...LC1s_At_forestay.1	-2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS14...LC1s_At_forestay.2	-2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS15...LC1s_At_forestay.3	2.2e+5	-6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS16...LC1s_At_forestay.4	2.2e+5	6.4e+5	2.4e+7	2.4e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS17...LC1s_at_hinge_point.1	-2.2e+5	-6.9e+5	2.6e+7	2.6e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS18...LC1s_at_hinge_point.2	-2.2e+5	6.9e+5	2.6e+7	2.6e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS19...LC1s_at_hinge_point.3	2.2e+5	-6.9e+5	2.6e+7	2.6e+7	0.0	0.0	0.0	0.0	0.0	0.0
LS20...LC1s_at_hinge_point.4	2.2e+5	6.9e+5	2.6e+7	2.6e+7	0.0	0.0	0.0	0.0	0.0	0.0

Updated

Add Extreme Stress Tables

1

Press **Results** on the toolbar and select  to open tables window

2

Use dropdown menu for load selector

3

Select all **Load Sets**

4

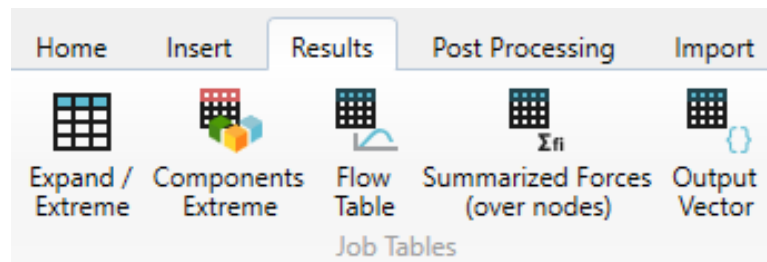
Press **All**

5

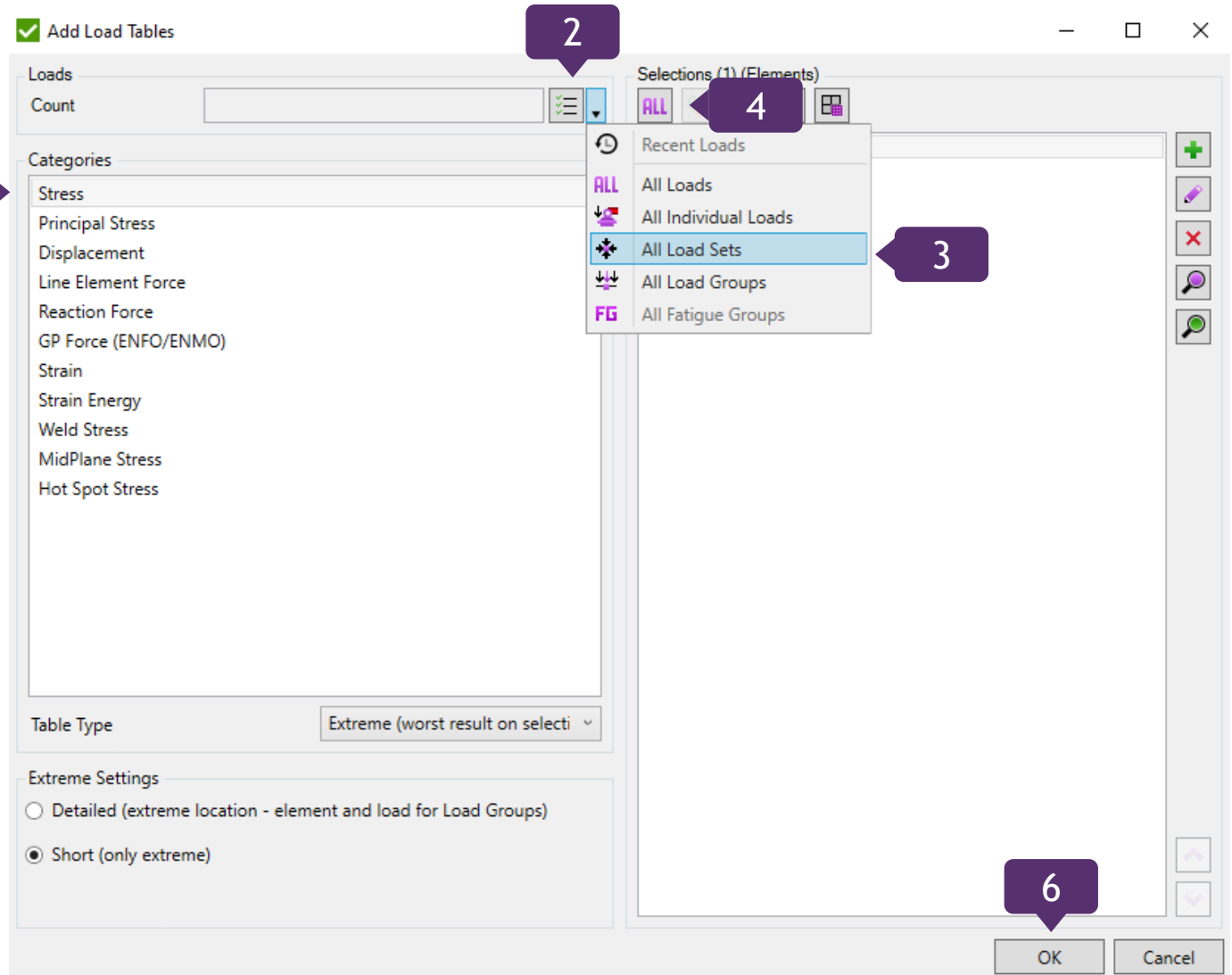
Categories: **Stress**

6

Press **OK**



1



Copy Table to Load Group

1 Execute **Stress Table** under Load Set

2 Select **Result Items** from context menu

3 Table Type: **Load Group**

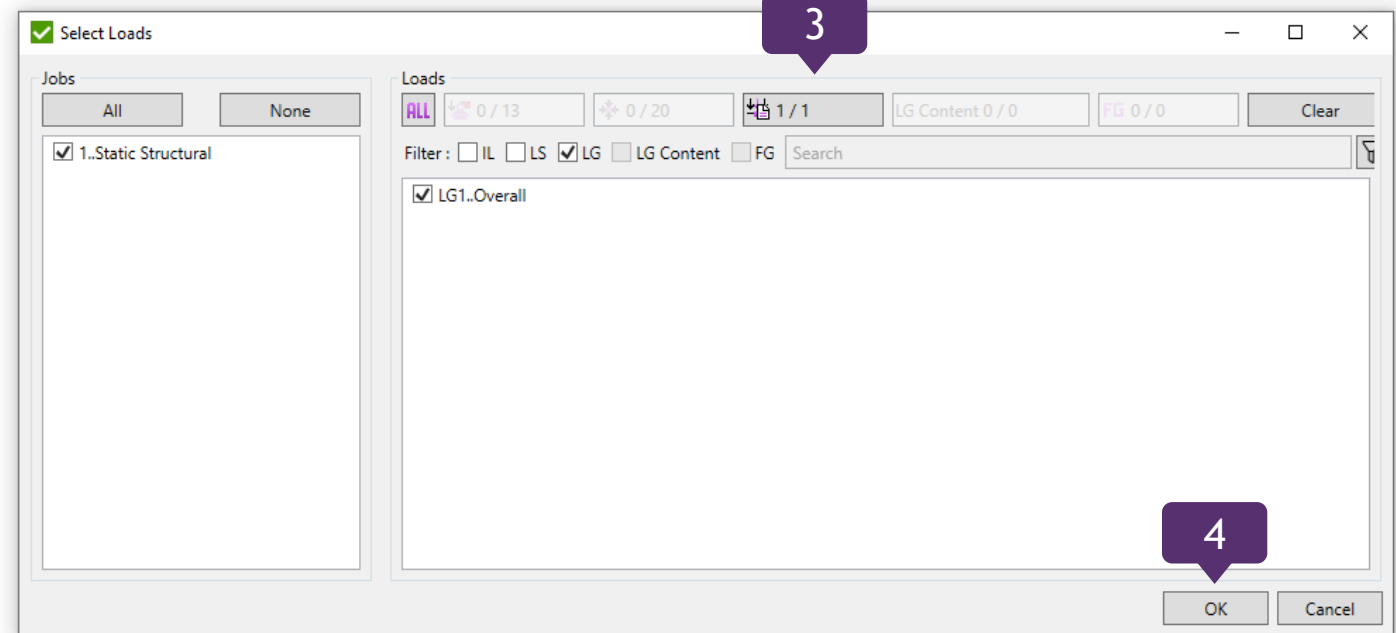
4 Press **OK**

- Load Set '1..LC1s_Tip load.1'
 - Displacement (LS1, All Entities)
 - Usum (LS1, All Entities, v1)
 - Seqv (LS1, All Entities, v1, Total [AbsMax])
 - Stress (LS1, All Entities)
- Load Set '2..LC1s_Tip
- Load Set '3..LC1s_Tip
- Load Set '4..LC1s_Tip
- Load Set '5..LC1s_Mi
- Load Set '6..LC1s_Mi
- Load Set '7..LC1s_Mi
- Load Set '8..LC1s_Mi
- Load Set '9..LC1s_Ba
- Load Set '10..LC1s_B
- Load Set '11..LC1s_B
- Load Set '12..LC1s_B

- Generate
- Edit
- Rename F2
- Move Up
- Move Down
- Export to Project
- Copy Ctrl + C
- Cut Ctrl + X
- Remove Del
- Apply to Selected
- Copy To Loads

2

Result Items



3

4

Move item in the structure

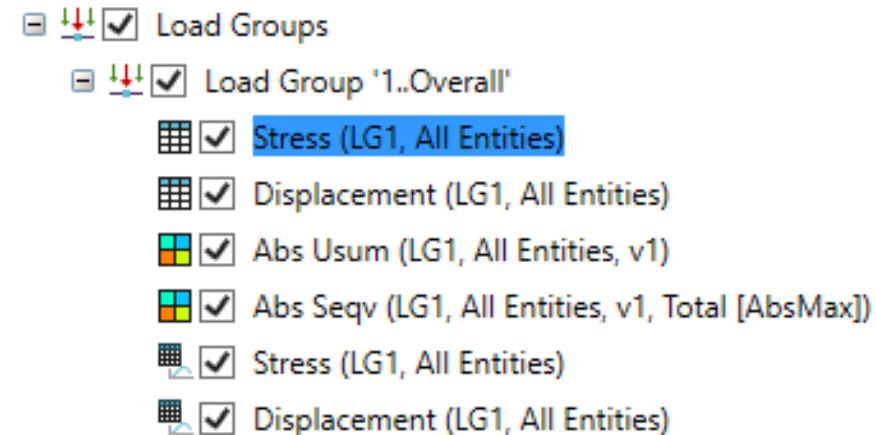
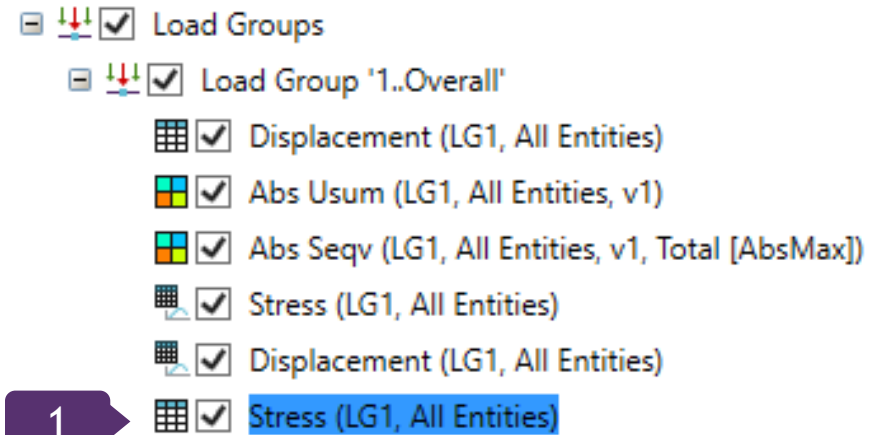
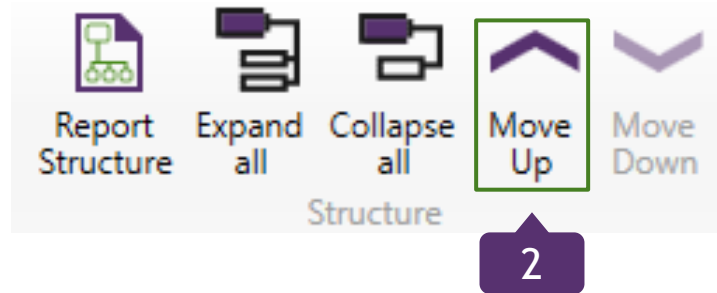
1

Select **Stress (LG1, All Entities)**

2

Press **Move Up** item

Move up and move down is possible using Ctrl + Up and Ctrl + Down



Add plots for Load Group

1

Execute **Stress Table** under Load Set tree

2

Select **Copy**

3

Execute **Load Set**

4

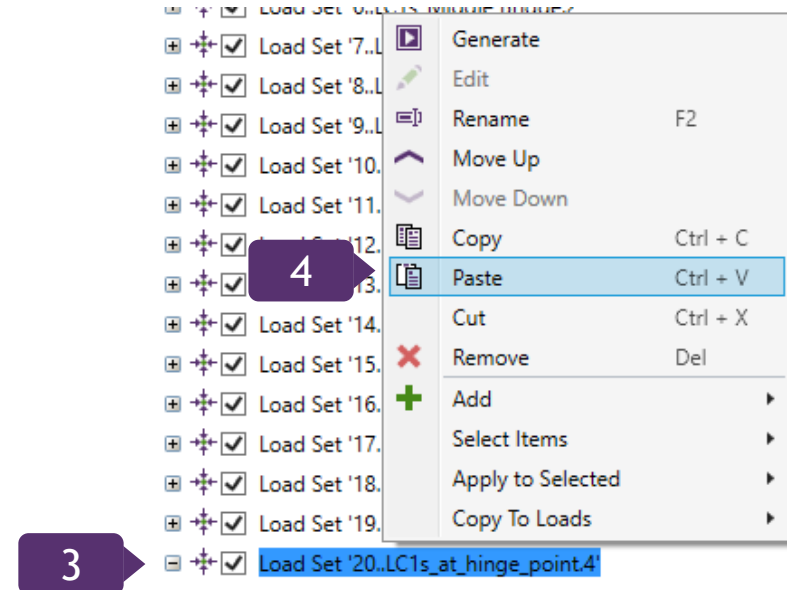
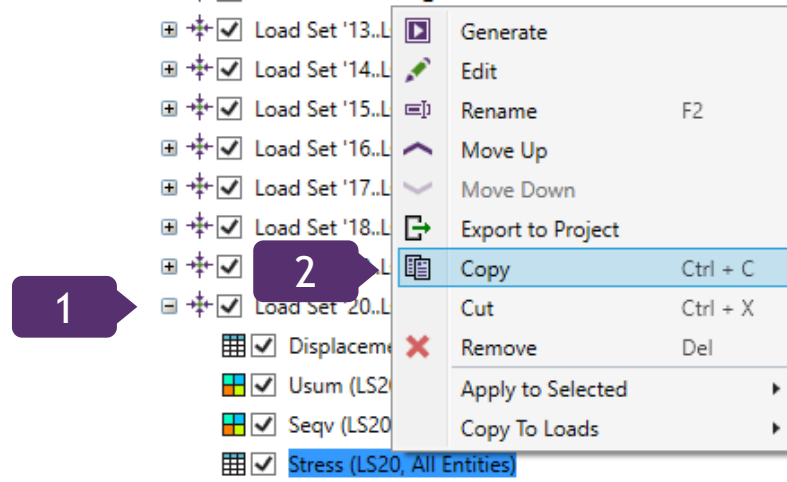
In context menu select **Paste**

5

For first Stress Table set View **1..Default View** in Property Grid

6

For second Stress Table set View **2..Isometric with filled edges**



5

Behavior	
Break Page Before	Yes
Enabled	Yes
Data	
Job	1..Static Structural
Last Time Generate	
Load	LS19..LC1s_at_hinge_point.3
Title (Default)	Stress (LS19, All Entities)
Title (User)	
Options	
Category	Stress
Extreme Table Style	Short
Selection	All Entities
Type	Extreme (worst result on sele
Selection location plot	
Insert plot	Yes
View	1..Default View

6

Behavior	
Break Page Before	Yes
Enabled	Yes
Data	
Job	1..Static Structural
Last Time Generate	
Load	LS19..LC1s_at_hinge_point.3
Title (Default)	Stress (LS19, All Entities)
Title (User)	
Options	
Category	Stress
Extreme Table Style	Short
Selection	All Entities
Type	Extreme (worst result on sele
Selection location plot	
Insert plot	Yes
View	2..Isometric with filled edges

Add table for Static Stress Check

1

Select **Check Tables** from Toolbar

2

Select **Static Stress Check**

3

Select 

4

Select **Direction over Parameters**

5

Direction: **X**

6

Press  to add full model selection

7

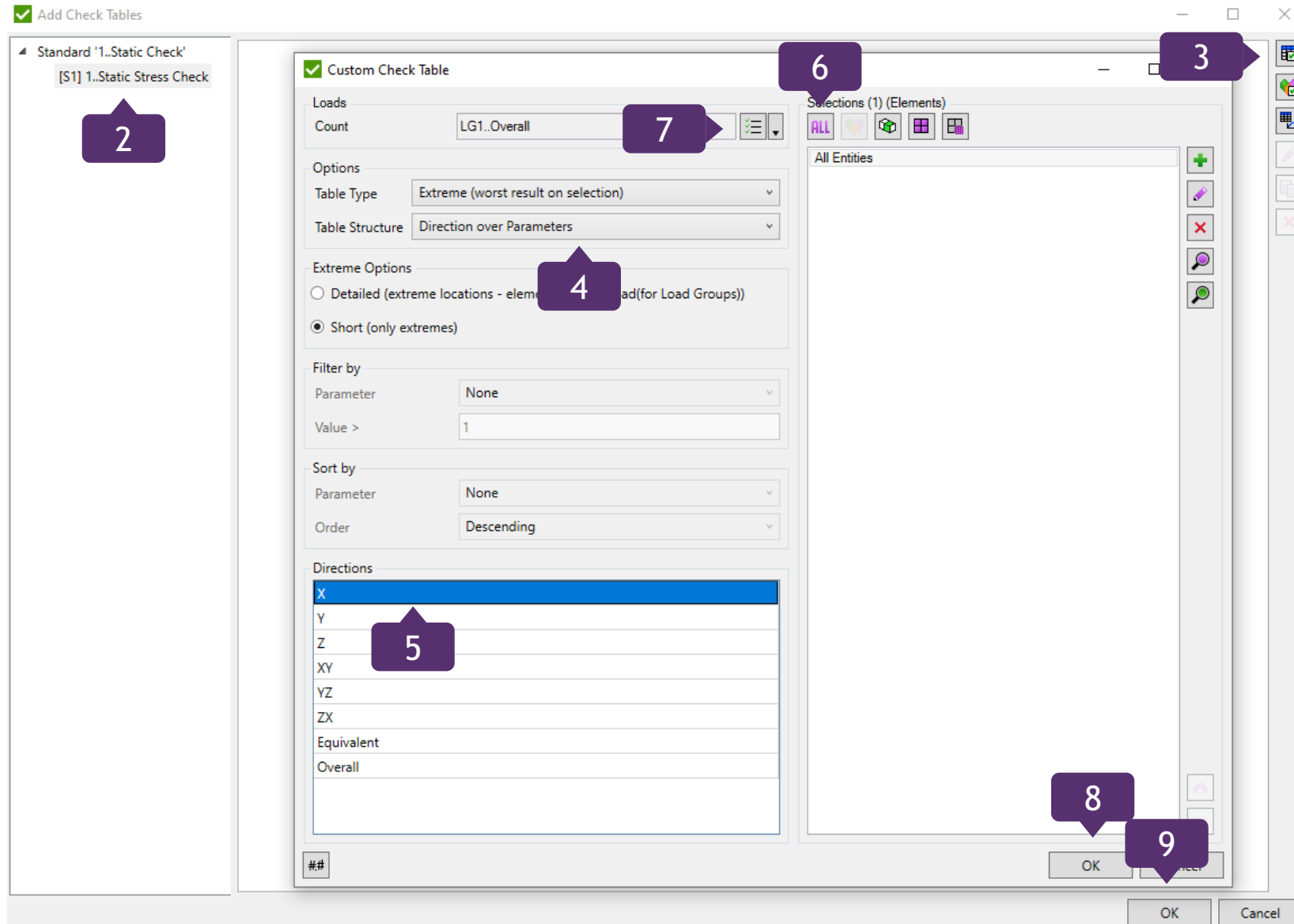
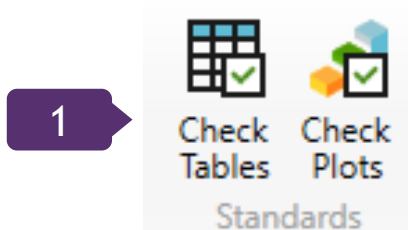
Select all **Load Groups**

8

Press **OK**

9

Press **OK**



Add Plot for Static Stress Check

1

Select **Check Plots** from Toolbar

2

Select **Static Stress Check**

3

Press **Check Plots** 

4

Select Views with IDs 1-2

5

Press **ALL** to add full model selection

6

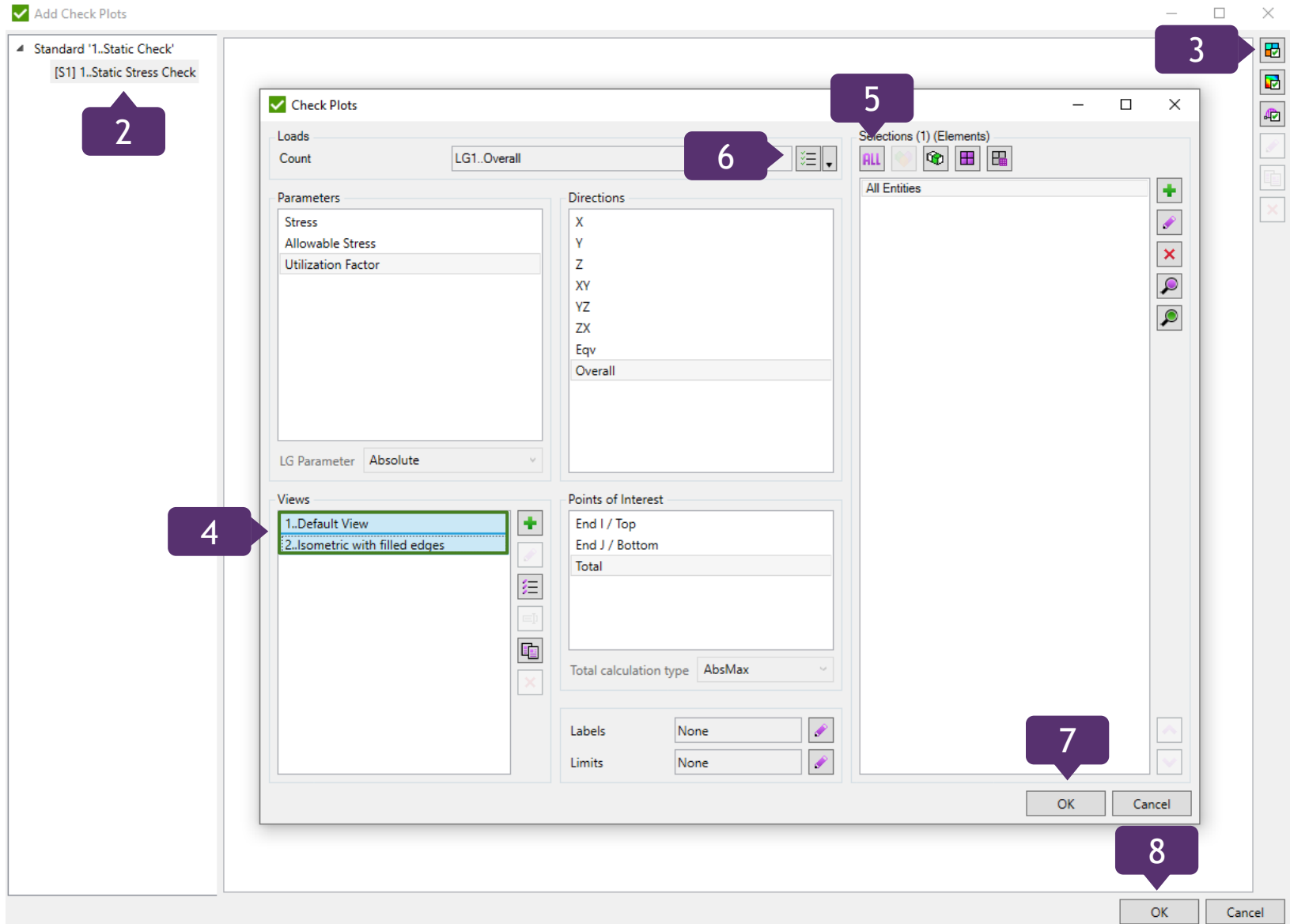
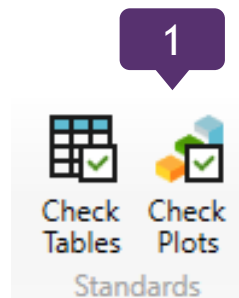
Select all **Load Groups**

7

Press **OK**

8

Press **OK**



Generate Static Stress Check results

1

Execute **Overall Utilization Factor (LG1, All Entities, v1, Total)**

2

Set **No**

3

Select **Static Stress Check**

4

Execute **Generate** from context menu

2

Behavior

Break Page Before: No

Enabled: Yes

Data

Check: 1..Static Stress Check

Last Time Generated:

Load: LG1..Overall

Standard: 1..Static Check

Title (Default): Utilization Factor (LG1, All

Title (User):

Options

3

1..Static Check

1

Utilization Factor (LG1, All Entities)

Overall Utilization Factor (LG1, All Entities, v1, Total)

Overall Utilization Factor (LG1, All Entities, v1, Total)

4

Generate

Edit

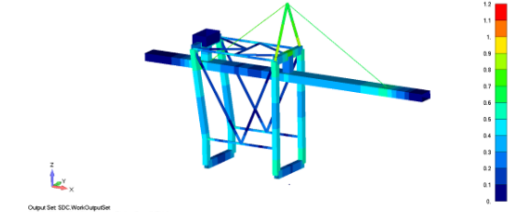
Rename F2

1..Static stress check

Unit System
Current Unit System = MKS (Meter/Kg/Second). It is used in calculations for the following standards: API RP 2A, ISO 19902, Norsok N004, DIN 15018, FEM 1.001 and Eurocode3.

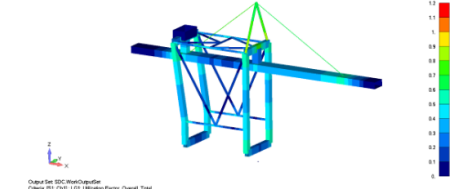
Standard	1..Static stress check	Check Selection	[S1] 1..Static Stress Check
Load Group	LG1..Overall		All Entities
Extreme	Allowable Static Stress		Utilization Factor
Minimum	20696544.00		0.00
Maximum	20696544.00		0.85
Absolute	20696544.00		0.85

Overall Utilization Factor (LG1, All Entities, v1, Total)



Check	[S1] 1..Static Stress Check	Point
Load Group	LG1..Overall	Parameter
Selection	All Entities	View

Overall Utilization Factor (LG1, All Entities, v2, Total)



Check	[S1] 1..Static Stress Check	Point
Load Group	LG1..Overall	Parameter
Selection	All Entities	View

Add Governing Loads

1

Select **Post - Processing - Governing Loads - Add GLT**

2

Select **Load Group 1.Overall**

3

Limits Criteria **100% of abs elements**

4

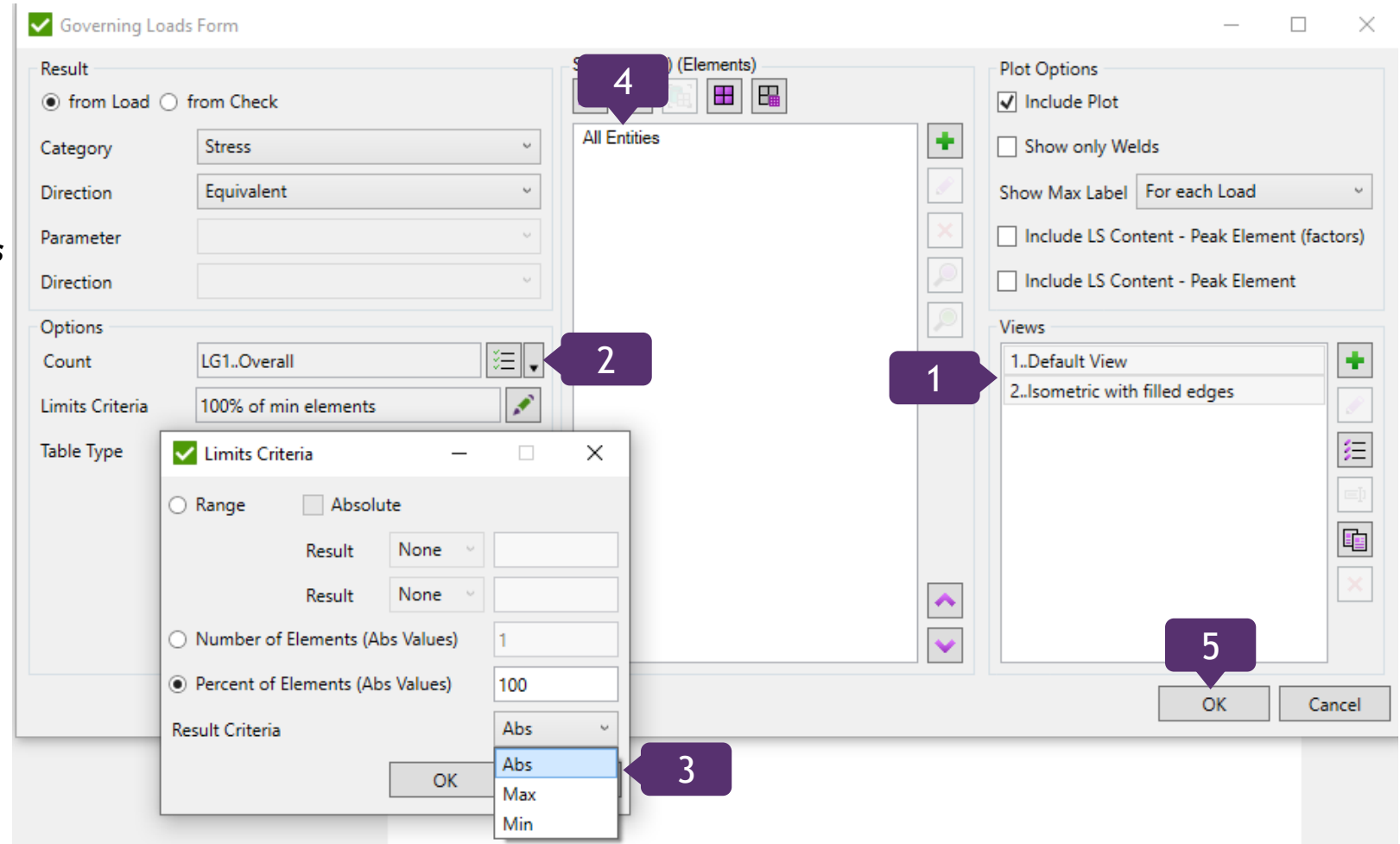
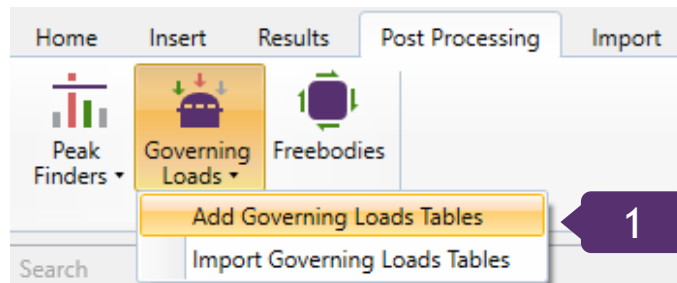
Press **ALL** to add full model selection

5

Select Views with IDs 1-2

6

Press **OK**



1

Select **Governing Loads (Seqv (LG1; All Entities))**

2

Execute **Generate** from context menu

☒ Load Groups

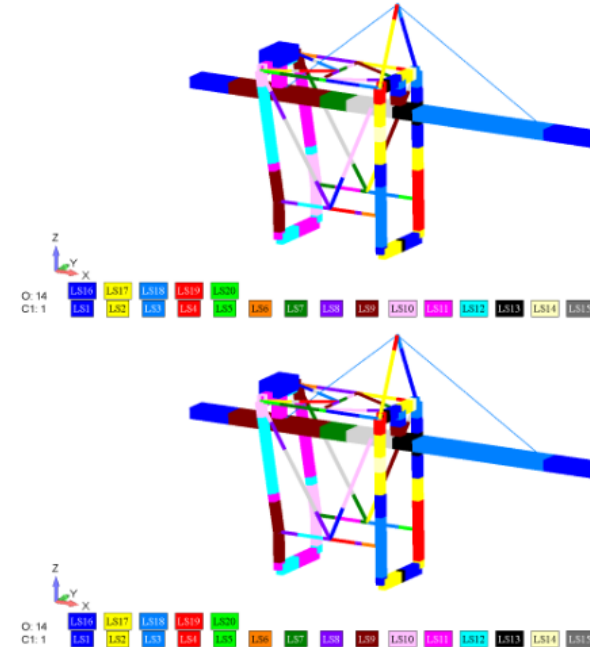
☒ Load Group '1..Overall'

- ☒ Displacement (LG1, All Entities)
- ☒ Abs Usum (LG1, All Entities, v1)
- ☒ Abs Seqv (LG1, All Entities, v1, Total [AbsMax])
- ☒ Stress (LG1, All Entities)
- ☒ Displacement (LG1, All Entities)
- ☒ Seqv (LG1; All Entities)

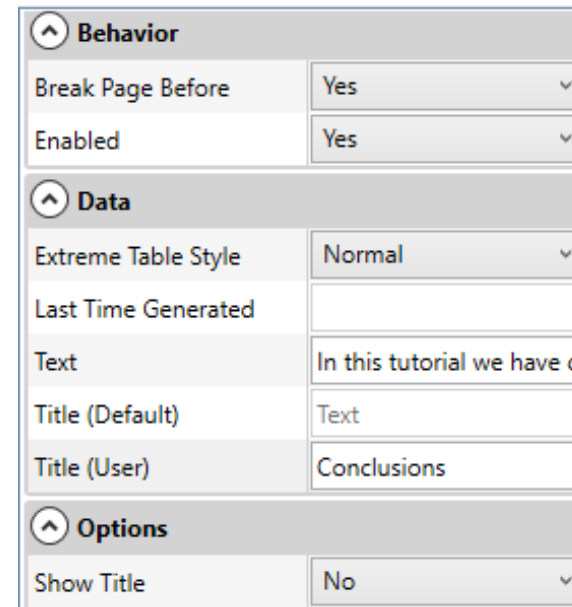
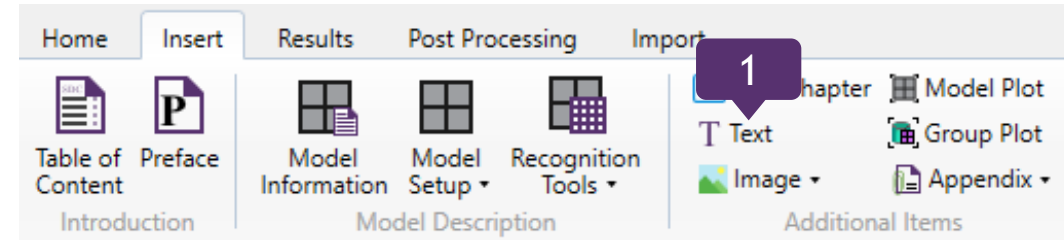
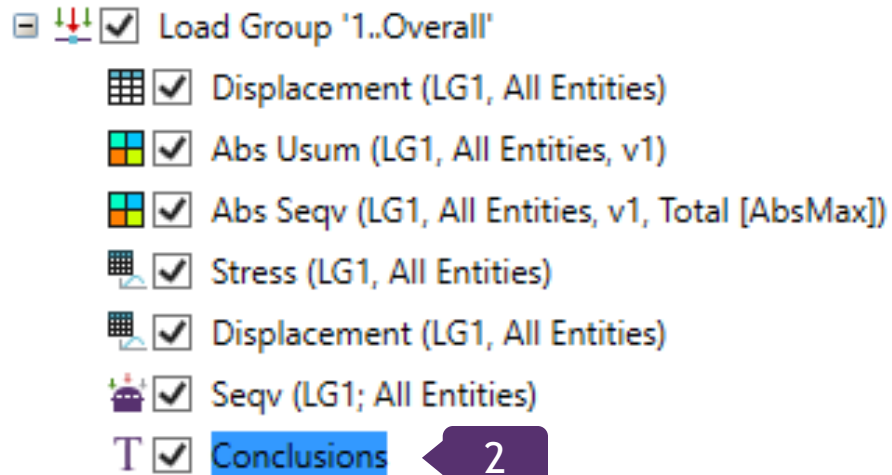
☒ Summary

Generate

Seqv (LG1; All Entities)					
Category	Stress		Direction	Equivalent	
Criteria	100% of abs elements				
	Selection	Elements Count	Abs Entity Id	Abs Value	Load
All Entities		421 / 421	131	176.40e+6	LS1..LC15_Tip load.1

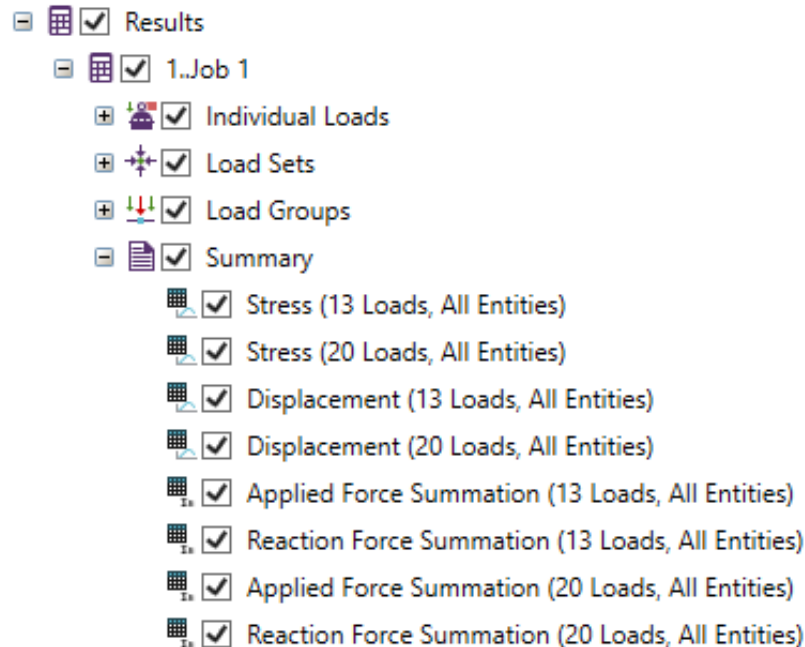
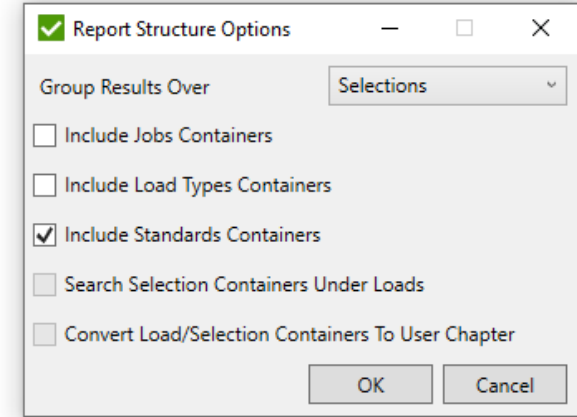
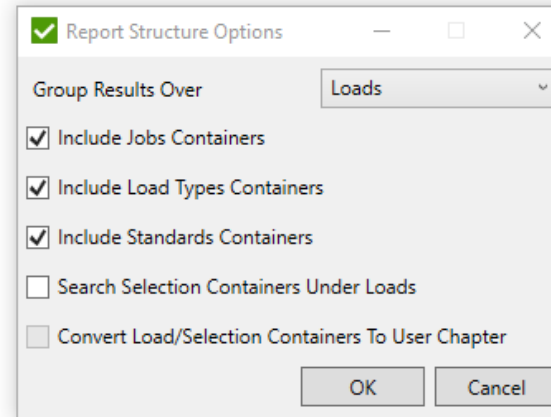


- 1 Select **Insert** on the Toolbar and click on **Text** item
- 2 Select **Text** in model tree
- 3 In display properties set the Title: **Conclusion**
- 4 Text: *In this tutorial we have created 2 reports using Report Designer*

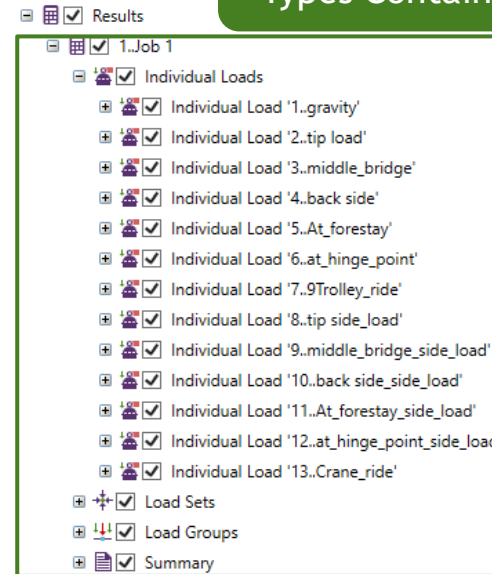


When Table/Plot is edited and load/selection is changed, the item is moved under correspondent Load/Selection automatically. Moreover, when the item is dropped under Load/Selection its load/selection is updated as well.

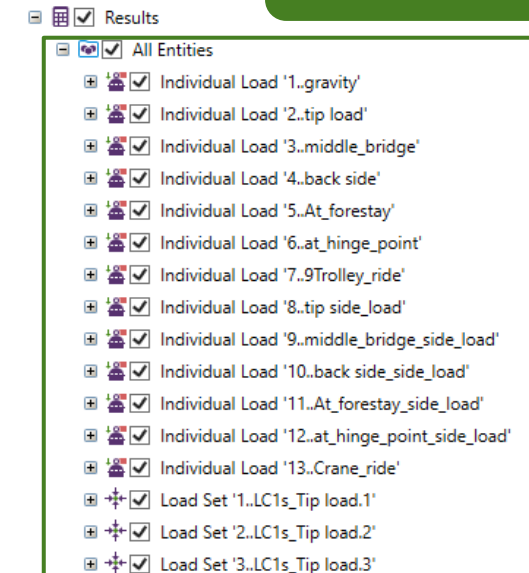
Tables/Plots with multiple loads of the same Job are placed under JobSummary Chapter (for loads from different Jobs in Summary under Results chapter):



Include Load
Types Containers



Include Job
Containers



Import from word document

1

Select **Import** on the Toolbar and click on **Word Document**

2

Select **Import document** in report structure

3

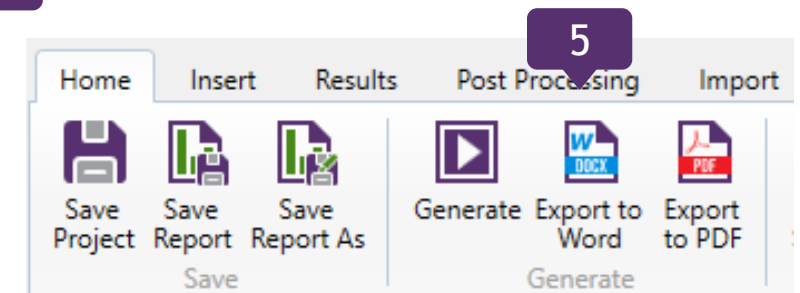
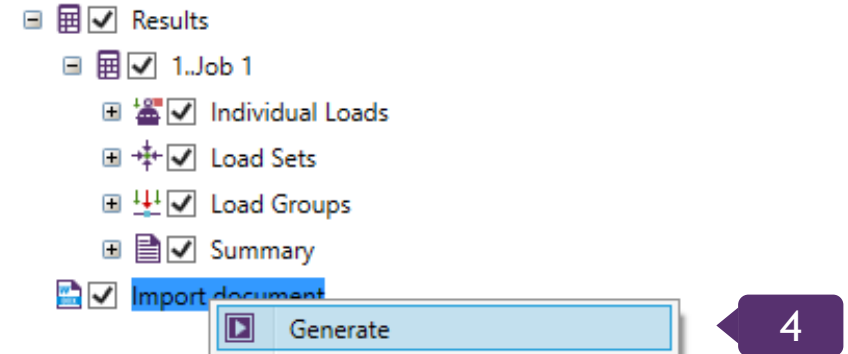
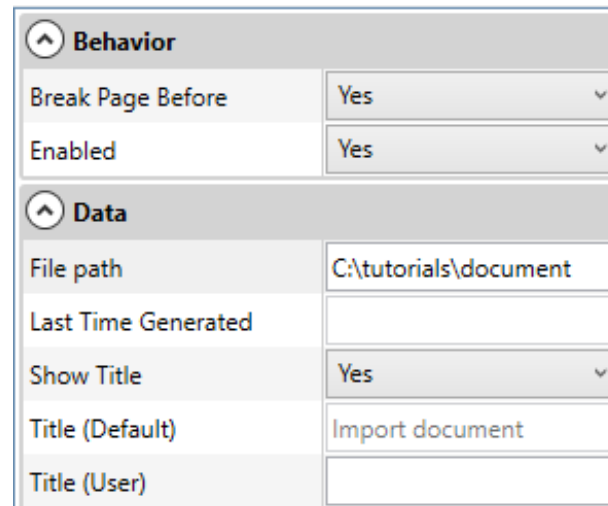
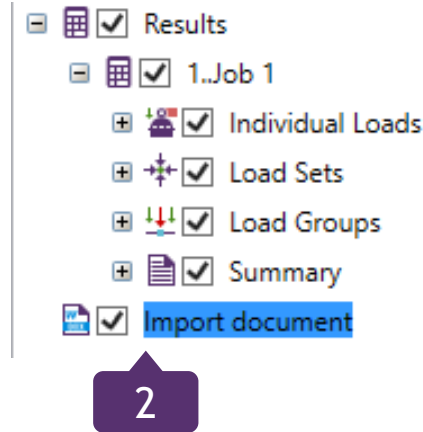
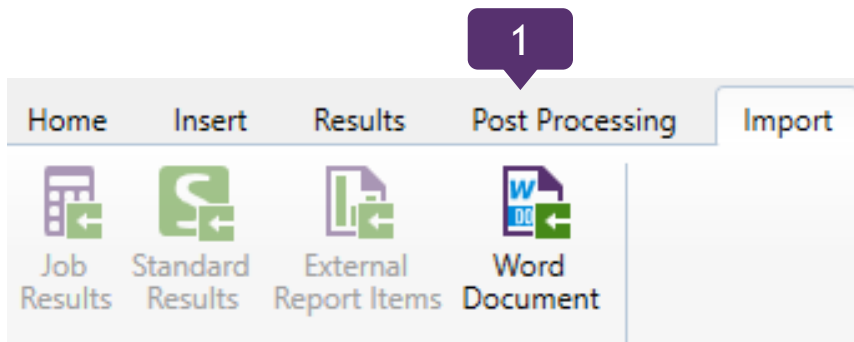
In display properties set the file path

4

Press **Generate**

5

Your word file will be displayed after report is exported to word or PDF



Generated report


1

Select **First Page** and press **Edit**


2

Select **Default View** and press **Ok**

3

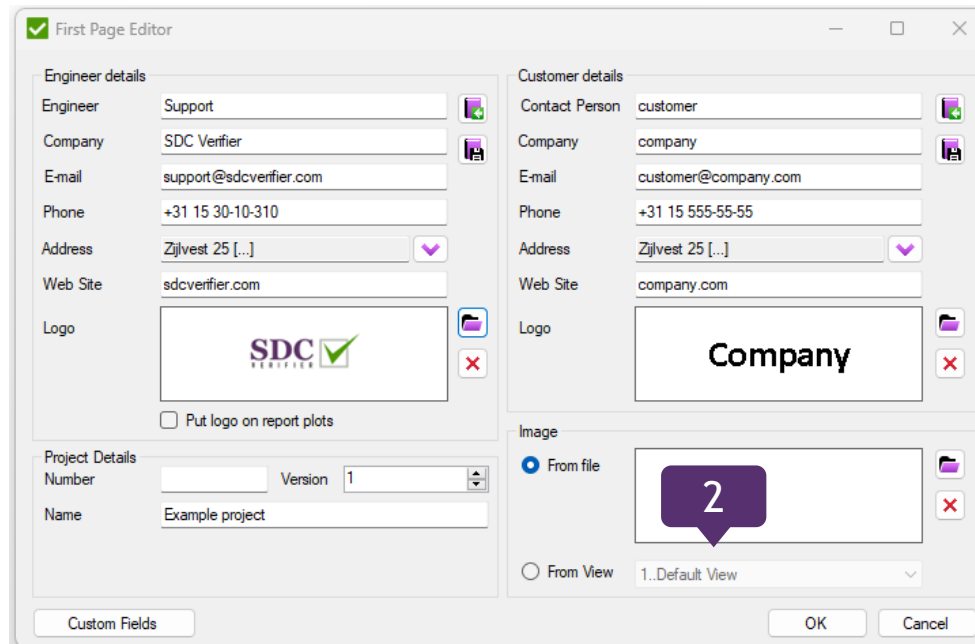
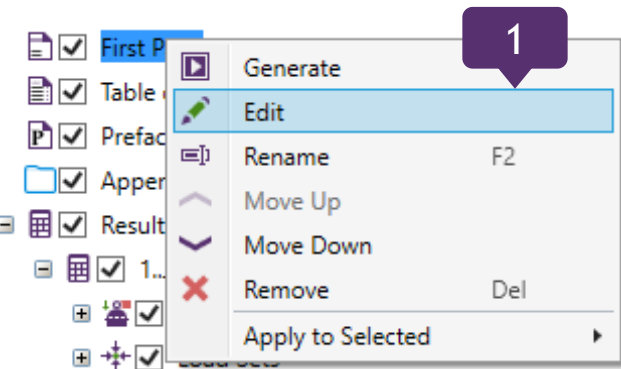
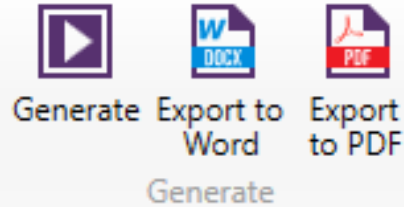
Press  to generate report to generate entire report

4

After generation is finished press to  export generated report to Word


3

4




First Page Editor

Engineer details

Engineer: Support
Company: SDC Verifier
Email: support@sdcverifier.com
Phone: +31 15 30-10-310
Address: Zijlvest 25 [...]
Web Site: sdcverifier.com
Logo: 

☐ Put logo on report plots

Customer details

Contact Person: customer
Company: company
Email: customer@company.com
Phone: +31 15 555-55-55
Address: Zijlvest 25 [...]
Web Site: company.com
Logo: 

Project Details

Number: Version: 1
Name: Example project

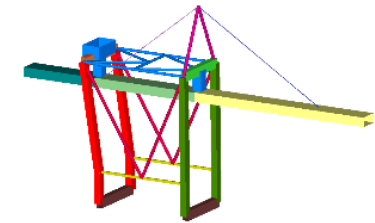
Image

☒ From file
☐ From View: 1..Default View

Custom Fields OK Cancel



Result report



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SDC Verifier
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sdcverifier.com
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Engineer: Support
Customer: customer
Project Number:
Version: 1
Date: 08/06/2023