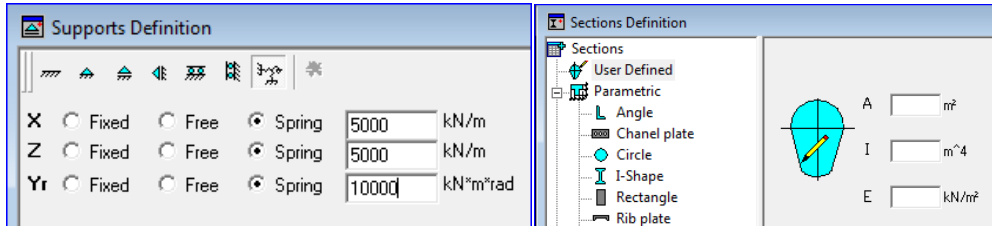


MatrixCAE version 4.3 Sp I - Release note

Processed in version 4.3 SPI (July 2010):

General:

1. **Attention:** After starting the update file (MxF43SP I.exe) it can take several minutes before the Install Shield Wizard appears. (This is a known problem of Install Shield)
2. Help files are on several places updated.
3. On several places are dimensions added, for example in Support definition.



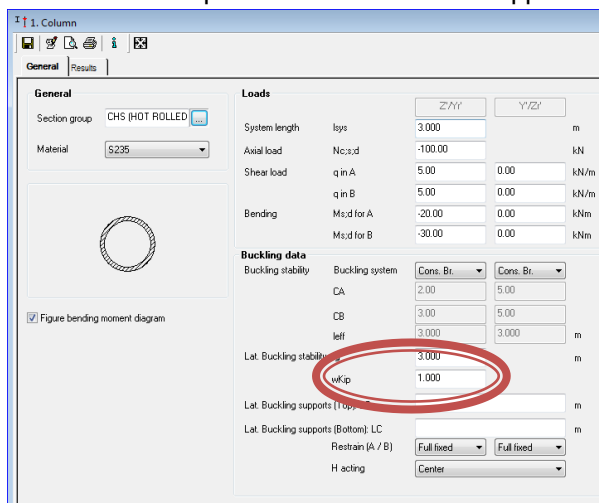
MatrixFrame® Toolbox:

1. General:

- a. Module "Section properties" is added.
- b. Module "MN-kappa" is added.
- c. When starting the MatrixFrame Toolbox, as a user, there were sometimes problems with finding the libraries. This is a permission problem and has been resolved in SPI.
- d. Printing pictures gave message "Memory full" if the picture was too big. This has been resolved.
- e. In several pictures the text was not always readable. A setting is made for the font of the text. This setting you can find in tab "Pictures" in de Report Setup.

2. Steel:

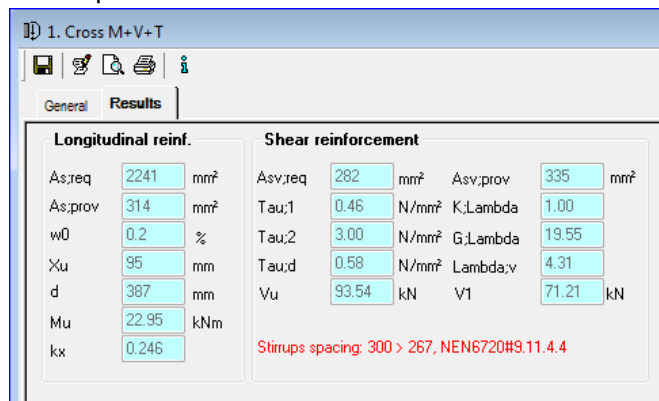
- a. Moment in "Y/Zr" was not taken into account for column calculations. This has been resolved.
- b. Tube sections were giving a very big UC, the cause of this was a $W_{kip} = 0$ setting. Now users can define the W_{kip} for sections that are not supported by the general lateral buckling rules.



- c. Opening a cross section classification file was not showing the filled in parametric section. It was always showing IPE80. This has been resolved.

3. Concrete:

- a. Concrete column with fire calculation in toolbox 4.2. I was not always possible anymore after installing 4.3. This has been resolved.
- b. No reinforcement proposals where made with additional nets. This is added.
- c. The reinforcement percentage in a M+N calculation was done with the “d” instead off the “h” of the section. (Only for NEN6720). This has been resolved.
- d. Left and right heated sides could not be set for a column calculation with single bending. This has been changed.
- e. For M+V+T calculation, in checking mode, the check on stirrups distance bigger then $2/3 \cdot h$ was not performed. This is added.



- f. Moment Ms in section “c” from point supported plates table 24 was not calculated. This has been resolved.

4. Timber beams:

- a. Several spelling errors for in- and output has been resolved.
- b. In a beam calculation of a floor the snow and wind where taken into account. This has been changed.
- c. Dimension of moment of resistance was printed in mm^2 . This is corrected to mm^3 .
- d. In the output of a beam calculation of a inclined roof with code NEN-EN are NEN related items printed. This is corrected.
- e. After closing toolbox and reopening a beam calculation the section group and materials where not the last used ones. It was always Not Chiseled and C30. This has been resolved.

MatrixFrame®

1. Input:

- a. For NEN-EN it was not possible to use AVB cold shaped sections. This has been resolved.

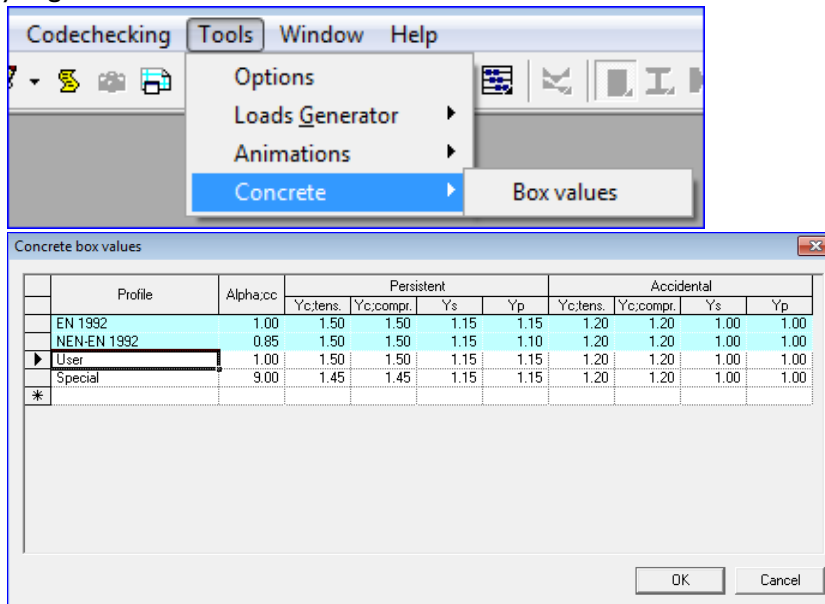
2. Loads:

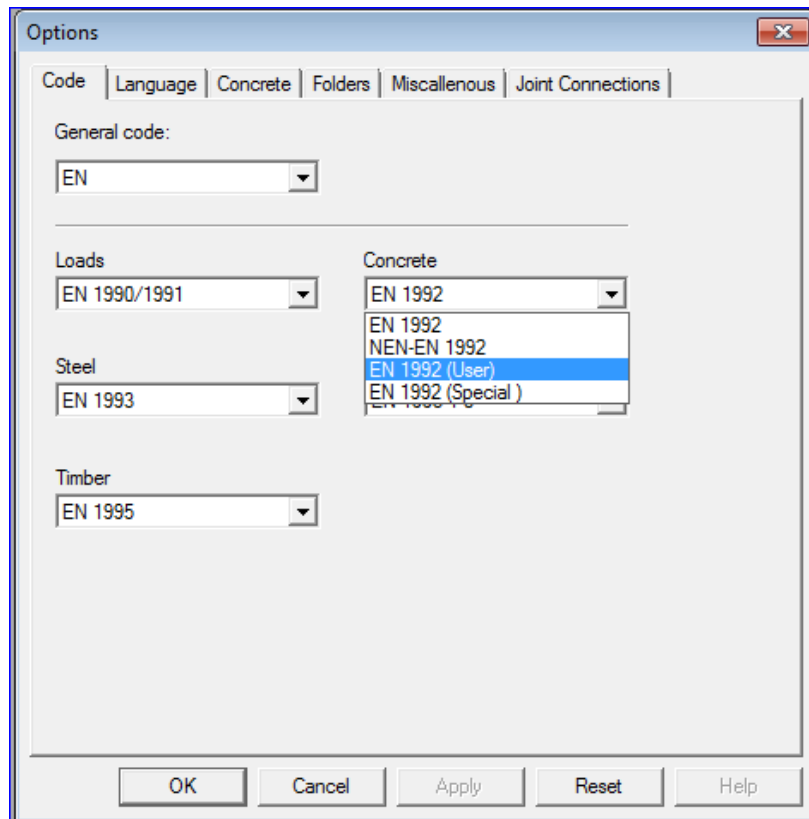
- a. It is now possible to put self weight on tension- and compression beams.

- b. Not used variables in loads calculations were set to 0 in the formulas. To for come errors, this has been changed. Now the formula is colored red and in the tooltip shows “Not initialized variables are used”.
- c. Renumber loads when using the loads generator is repaired.
- d. Sometimes the beam or node numbers were not filled when copying a load case. This has been resolved.
- e. Copying a load case with a negative q value, like “-q7” was not working. This has been resolved.

3. Concrete:

- a. Sometimes the reinforcement was deleted in the grids, this happened in a beam with a free release in it. This has been resolved.
- b. When using double stirrups the calculation of the total reinforcement was not ok. This gave a negative value in Concrete Histograms. This has been resolved.
- c. Columns were also shown in the beams grid in a construction with beams and columns in it. This has been resolved.
- d. Sometimes more then 1 cut was made on the same place in a beam. This has been resolved.
- e. Extra moment due to Normal Force was not correct calculated in top reinforcement. This has been resolved.
- f. If code is set to EN it is now possible to fill in your own loads factors that are different from the EN1992 en NEN-EN 1992. (This is an expansion module.) The values can be filled in if you go to menu item Tools\Concrete\Box values.



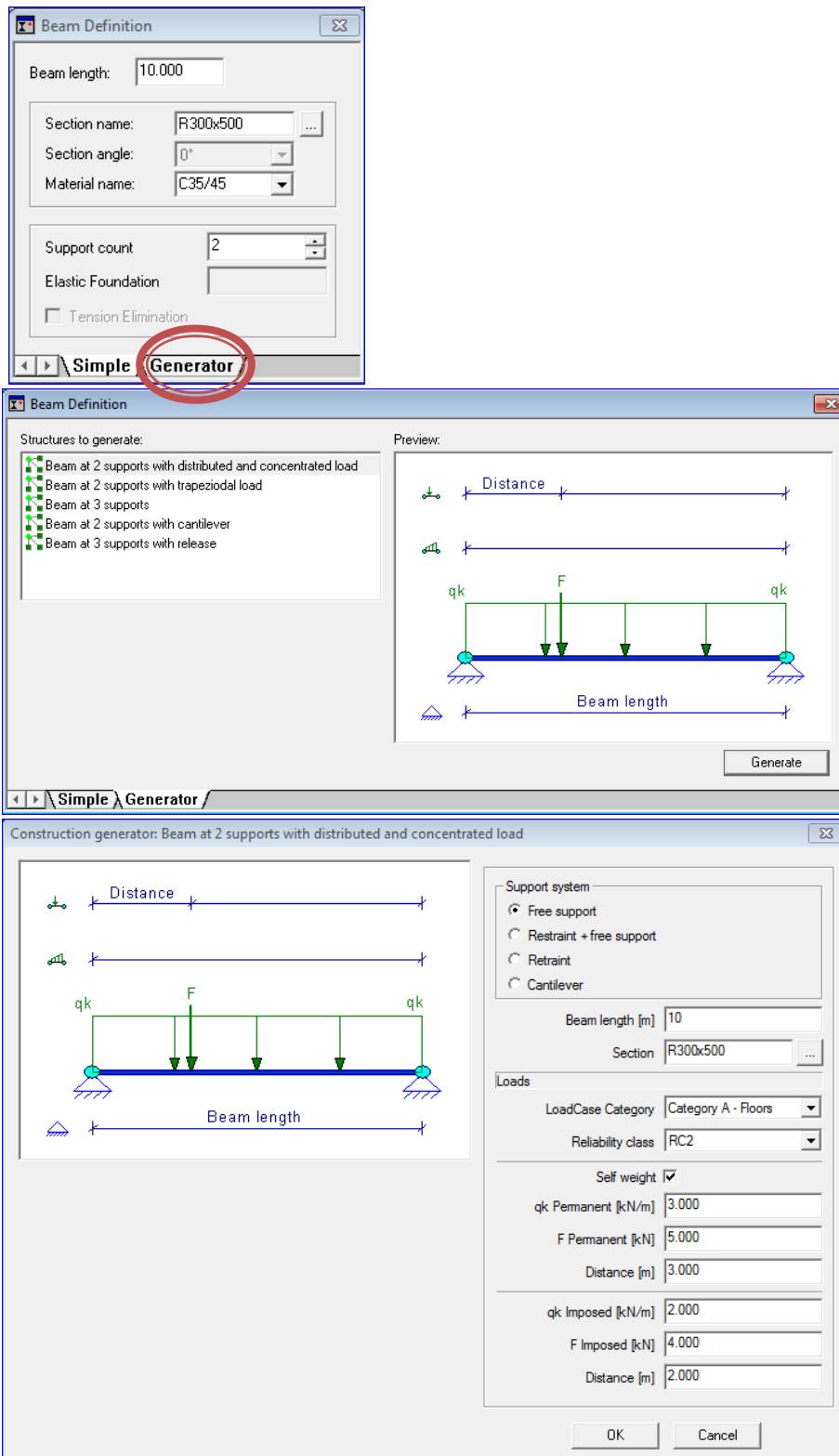


g.

4. Timber:
 - a. Correction of E modulus for deflections was not done for the NEN6760. This has been resolved.
6. Reports:
 - a. During printing sometimes the message appeared "Calculations are disabled by dongle". This has been resolved.
 - b. 2 new Headers are added.(1stHeadrNoFileName.rpt and HeaderOnlyProjectInfo.rpt).

ID Beam:

1. A moment on the beginning or the end off a beam were also a support was defined was not taken into account in results. This has been resolved.
2. New added the "Construction generator" (This is an expansion module), see also tab "Generator" in beam definition screen or menu "Construct\Structure generator".

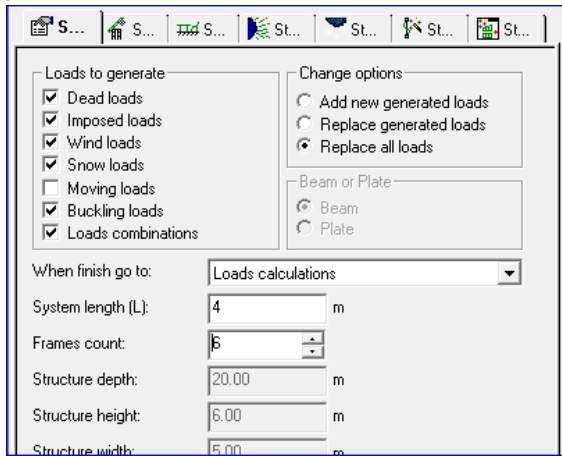


3. In the loads generator it was not possible to generate snow and wind for structure type "roof" This has been resolved..

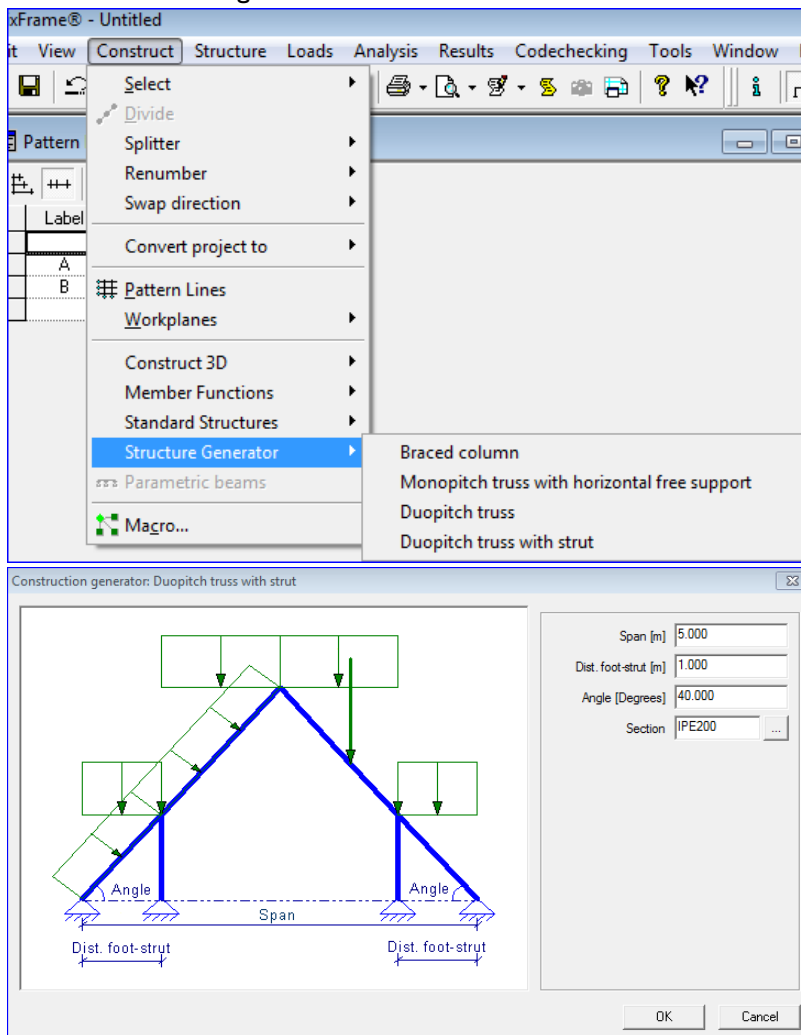
2D Frame:

1. Loads generator:

- a. In loads calculation for the NEN-EN are several extra items added for information about on what beam the load is added that has been generated with the loads generator.
- b. It's now possible to define the module that should be started after finishing the loads generator.



- c. In the generation of wind loads were sometimes q loads generated with a length of 0.00. This was causing a error on starting the analysis. This has been changed.
2. New added the “Construction generator” (This is an expansion module), see menu “Construct\Structure generator”

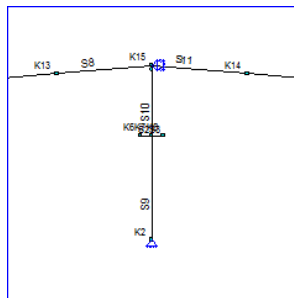


3. Steel Joint connections:

- a. In the calculation of a base plate where the horizontal loads not taken into account when there was also a tension beam attached. This has been resolved.
- b. It's now possible to define a bolted –splice connection for tapered sections in a node (K5), if the connected parts are having the same measurements.

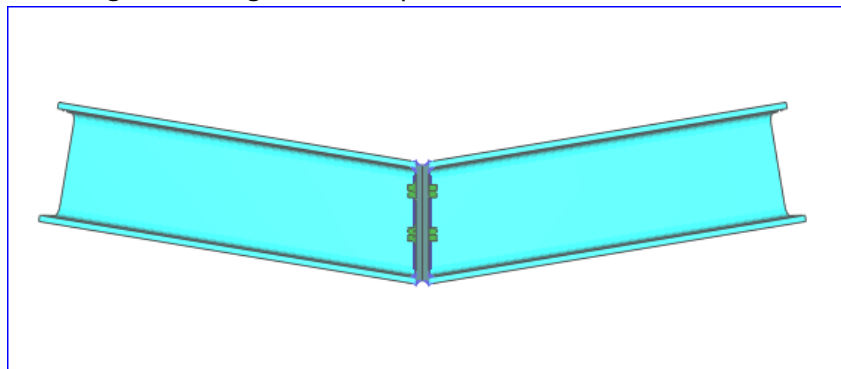
Joint Connection Type								
Node	Bottom	Top	Left	Right	Topology	Connection Type	Label	UC Max.
K1		S1 (IPE 330)			Column - Support	Column - Base	C1	Create N/A
K2		S6 (IPE 330)			Column - Support	Column - Base	C2	Create N/A
K3	S1 (IPE 330)	S2 (IPE 330(330-60)				N/A	C3	Create N/A
K4	S6 (IPE 330)	S7 (IPE 330(330-60)				N/A	C4	Create N/A
K5	S2 (IPE 330(330-60)			S3 (IPE 300(600-30)	Beam - Beam	Bolted - Splice	C5	Create N/A
K6	S7 (IPE 330(330-60)		S8 (IPE 300(300-60)		Column - Beam	Column - End plate (Left-Right)	C6	Create N/A
K7			S3 (IPE 300(600-30)	S4 (IPE 300)		N/A	C7	Create N/A
K8			S5 (IPE 300)	S8 (IPE 300(300-60)		N/A	C8	Create N/A

- c. It's now possible to define a bolted-splice connection even if there is a column situated beneath it. This can be done by setting the bottom beam to nothing, se screenshot node 15



Joint Connection Type								
Node	Bottom	Top	Left	Right	Topology	Connection Type	Label	UC Max.
K10	S12 (HE 220A)	S13 (HE 220A)	S4 (IPE 330)		Column - Beam	Column - End plate (Left-Right)	C10	Create N/A
K11	S6 (HE 220A)			S7 (IPE 450)	Column - Beam	Column - End plate (Left-Right)	C11	Create N/A
K12	S13 (HE 220A)		S14 (IPE 450)		Column - Beam	Column - End plate (Left-Right)	C12	Create N/A
K13						N/A	C2	Create N/A
K14			S7 (IPE 450)	S8 (IPE 450(450-95)	Beam - Beam	Bolted - Splice	C13	Create N/A
K15			S11 (IPE 450(950-4)	S14 (IPE 450)	Beam - Beam	Bolted - Splice	C14	Create N/A
			S8 (IPE 450(450-95)	S11 (IPE 450(950-4)	Beam - Beam	Bolted - Splice	C15	Create N/A

- d. The problem with negative values in the UC Chart has been resolved.
- e. The problem with showing results, from combination 1 to 9, in UC Chart with more as 10 loads combinations has been resolved.
- f. In bolted – splice connection it was not possible to define a angle > 180 degrees, so this connection made in Frame was not converted in the correct way. This has been changed. Now a angle > 180 degrees is made possible.



- g. The drawing of a bolted-splice connection from a symmetrical column with a haunch was missing the haunch on the left side. This has been resolved.

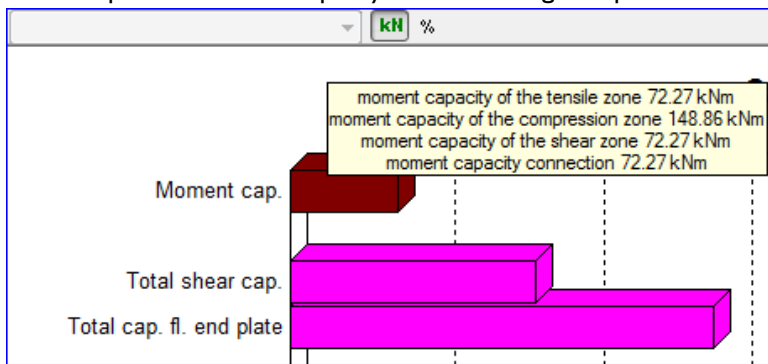
FEM:

- i. Sometimes pictures were not correct scaled when report was exported to PDF. Changes has been made to this module to for come this problem.

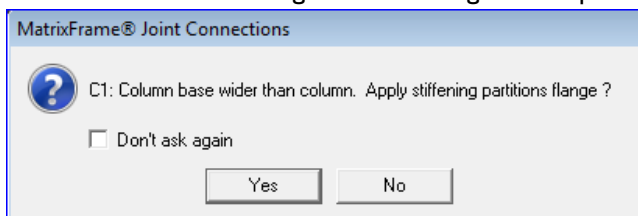
2. Sometimes the program crashed when in a new load case a load was added to a polylijn. This has been resolved.
3. Printing a report for a 2D Wall with reinforcement defined in the center was causing a crash. This has been resolved.
4. Color settings off the shape of the section in Visibility Options were not working anymore. This has been resolved.
5. When a 2D wall was calculated with the reinforcement in the center, only half of the needed reinforcement was shown. This was because of the reinforcement module that was always showing the reinforcement for 1 side. This has been changed now. The shown reinforcement is always the totally needed reinforcement. This is independently of the chosen reinforcement position.

Steel Joint Connections:

1. The tooltip of the moment capacity is now showing all capacities and not only the decisive.



2. After first time installation the setting for report language in Dutch was not always possible. This has been resolved.
3. Several text part in Dutch are changed for more clearness in program and reports.
4. Checkbox “Don’t ask me again” was missing for base plate with plate wider then column. This is added



5. The problem with warnings in bolted-splice connection, “Invalid scale value” and “Memory is full” if the drawing was printed are solved.
6. The calculation rules for bolt capacity in a tension console have been changed. Now a greater moment capacity is calculated.

MatrixGEO:

1. In the on screen digitizer are the axis wrong drawn if the picture is scaled after opening. This has been solved.

End release note

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