

Version information

18-10-2011 version 6.0.004

Development:

- New EN NA, using the recommended values of the standard.
- Vetted Polish and German language version.
- The L input field can be used for more functions when a point is being defined with coordinates.
- The coordinate input fields can be used for all steps of Move and Copy functions.
- Hungarian ground acceleration map, according to the valid national annex.

Bug fixes:

- Rarely appearing bugs are fixed in connection with Compound sections.
- Automatic generation of wind loads was not always successful in case of huge surfaces.
- Creating circular plate was not possible because of a faulty verification.

30-09-2011 version 6.0.003

Development:

- Snapping to point supports, point loads and end points of line distributed loads is available.

Bug fixes:

- The program imported both the first order and the second order results of the analysis into the joint module. The corrected method imports the second order results only provided there are second order results for a load combination.
- Web height of I beam was used as the length of the weld for calculation of simple plate connections, instead of the length of the endplate.
- The 2D bolt figure was erroneous if the joint was prepared by using the wizard for eccentric beams.
- In case of beam-to-column and beam splice joints it could happen that the software couldn't find the dominant load case if the automatic weld optimization was switched on.
- Fixes of minor improprieties in translations.

20-09-2011 version 6.0.002

Development:

- EN Portugal NA, EN Singapore NA.
- Automatic weld size optimization for bolted moment end-plate connections of beam-to-column beam-to-beam, and beam splice joints.
- Improved automatic geometry update function for joints.
- Copy loads without copying structural elements.

- Turkish translation.


Bug fixes:

- Revised EN NA handling panel.
- Generating load combinations according to the selected EN NA.
- Bug fixes in connection with memory handling in the Analysis module.
- Bug fixes in the Documentation module: contents won't be deleted together with the front page, when the front page should be deleted only, in member design documents sometimes the figures could overlap each other.
- Bug fixes in the Member check module.

Version 5.0

16-02-2011 version 5.0.010

Development:

- The user interface and documentation of ConSteel and CsJoint are available also in Spanish, Slovak and Czech language.
- The shell finite element mesh visualization can be turned off by clicking on the Two dimensional figure icon .
- The memory usage decreased by 10-30 %.
- The load cases appear in the order of the input in the analysis result selection and also in the documentation.

Bug fixes:

- Opening the 'Accuracy of the earthquake calculation' dialog window led to program freeze when the results were previously deleted and there were no new results.
- The range of colors in the graphics result view of the deformation showed not only the real model points but also the end points of the fictive elements used for eccentric loads and supports.
- The accuracy of the Saint Venant torsional moment calculation has been increased for circular hollow sections and for those sections which has zero warping constant.
- Calculation of the truss Y and T connection sometimes led to program freeze.
- Uncommon program freeze has been fixed in the visualization of the results.
- The window selection of plates has been fixed. The plate was selected even when only one side of the plate was inside the selection window.
- In the documentation the safety and combination factor of the meteorological load cases were missing.
- In the documentation the properties of the tapered hidden bars were visible.
- The load transfer surface created the line loads incorrectly when there were minor geometry differences in the model.
- The coordinate axes of the line to line link elements were displayed for hidden elements when the hidden elements were translucently displayed.

23-11-2010 version 5.0.009

Development:

- In the CsJoint module adding a new bolt became easier when designing a bolted end plate connection.
- The default beam to column connection has been improved.

Bug fixes:

- Tension bars were not handled correctly in some cases during earthquake calculation.
- The finite element generator created a wrong finite element for those arc segments which were vertical.
- In the documentation module deleting a column from a table caused a program freeze.
- In the documentation module deleting the last item of the documentation caused a program freeze.
- In the documentation module if undo function was used right after the creation of a new documentation the program froze.
- The number in the documentation name was not increased.
- Load transfer surface distributed load to those members which were not under the surface if the model was inaccurate.
- Documentation tables of analysis did not contain those members which had no name. It could have happened when imported models were used.
- In CsJoint module bolt position problems now displayed better in case of bolted end plate connections.
- Zero value could be added for initial sway and that led to errors. The minimum value is $H/100$.
- Minor graphic problems were fixed in the member design diagrams.

28-10-2010 version 5.0.008

Development:

- The procedure of cross-section name conversion became faster and more comfortable during model import.
- ConSteel saves the type of the cross-section loaded last. This cross-section will be selected next time when the panel is opened.
- The Joint details dialog panel became resizable.
- Drawing straight lines and beams became easier. By pressing and holding the Ctrl button drawing line segments and continuous lines can be switched.
- The user interface and documentation of ConSteel and CsJoint now available also in Polish language.
- Tekla Structures 16.1 is now supported in the model export.

Bug fixes:

- Beam-to-beam joint with moment connection did not load the saved material for the end plate.
- The hollow section KN joint was freezing when there was too little gap or overlap.
- There was an unnecessary point defined when copying members with support or point load at the end.
- The capacity table did not display the results in „Extreme values by members” view.
- When bending a straight member the point supports did not move.
- When moving points and lines the point loads and point supports did not move.

15-07-2010 version 5.0.007

Development:

- Switching to Fit view can be reached by pressing the Ctrl+0 keys.
- The documentation manager window appears in the csJoint program from starting the second documentation.
- The visibility settings panels are appearing centre aligned, this way it is easier to select the appropriate icons.
- The swaying and non swaying buckling modes are separated to y and z direction in case of Method 2.

Bug fixes:

- The support of Aero interface of Windows Vista and Windows 7 became much better. E.g. the tooltips of the toolbar icons appearing well, the 3D windows of the joint dialogs are showing the graphics of the joint immediately after the appearance of the panel, without clicking into the 3D window.
- Some irregularly appearing program crashes has been fixed.
- Smaller graphical problem has been fixed in the analysis result view of the Member design tab.
- The first drawn graphical object appeared with solid mode in case of hidden line view.
- In some cases the selection of some type of objects couldn't be done, after starting the program.
- The stiffness values of elastic line support were not taken into consideration as value per metre, when it was converted to discrete point supports in the finite element model.

29-06-2010 version 5.0.006

Development:

- The method of distributing surface load using load transfer surface became adjustable. The load can be distributed to uniform line loads, and different types of structural points can be selected for taking into consideration in the distribution method.
- The process display has been improved.
- In the documentation module the picture has been inserted last becomes selected in the content tree, so far the next picture to be inserted is placed below this.

Bug fixes:

- Some irregularly appearing program crashes has been fixed.
- The program calculated reaction forces by mistake in such points where a point support was placed to that end point of a Link element where the release was defined.
- The analysis module crashed if connection was placed to the end of a tension bar, and stiffness of the joint was taken into consideration in the calculation.
- Changes of cross-section parameters were not applied correctly in all cases in the joint module, and in the csJoint program.
- Minor graphical problems has been fixed on the result views (e.g. the visibility of the eccentricity lines).
- The mouse cursor disappeared in some positions while running the program under Windows Vista and Windows 7.

08-06-2010 version 5.0.005

Development:

- The joint designer module of ConSteel can be run as a standalone application. After the installation of ConSteel it can be launched by clicking on the csJoint icon.
- Progress bar can be seen during slow database and graphical processes.
- Material grades can be set in a table.

Speed-up:

- Model load is faster.
- Deleting elements in big models is twice as fast as in earlier versions.
- Undo delete is 20-30% faster.
- Zooming is faster.

Bug fixes:

- Serious bug has been fixed in the section properties calculation. For symmetric macro sections if I_z inertia moment in the section edit system was greater than I_y inertia moment then the main axis sloping (alpha) was 0 degree instead of 90 degree in the GSS section model. Previously created models can be fixed by changing one section parameter (for example grade) and accept the changes then change back the parameter to the original.
- In compound macro sections when I shape reinforced by I or H shape at flange was used the two sections was reversed in the GSS section model. The previously defined sections can be fixed by using the method described above.
- A memory leak bug has been fixed in the analysis module.
- The Line loads were incorrect when the member was divided.
- Point load which was placed in the local coordinate system of a member was handled as global load in the finite element model.
- Important data has been added to serviceability limit state documentation.

28-05-2010 version 5.0.004

Development:

- Enhanced rotating function. ConSteel analyses the possible speed of the rotating and if it is too slow, the view is automatically changed to wireframe.
- Enhanced BOCAD export using SC1 file. Handling of the section types is easier.
- The previously used Eurocode NA is automatically selected when creating a new model.

Speed-up:

- Graphical process is faster during loading a model and during deleting elements from a model.
- The analysis table shows the user selected result values as a default. Therefore changing the analysis result view is faster.

Bug fixes:

- Distributing surface loads to members worked incorrectly in some rare cases. This bug has been fixed.
- Eccentric loads were not taken into account in buckling analysis. The eigenvalue results were the same as for non-eccentric loads.
- Truss and beam splice joints could only be placed to members, which were parallel to XZ plan.
- Program freeze error was fixed in member design module. Bugs were also fixed in the displaying the results.

- Ordinal number of the load combinations have been fixed in documentation. Language problem has been also fixed in member design documentation and member number has been added. In the earthquake documentation the ground type parameters were not displayed when special ground type was defined.
- In snapshot images the sizes of coordinate axes were incorrect in some cases.

28-04-2010 version 5.0.002

Development:

- Circular hollow section and rectangular hollow section macros can create cold formed and hot rolled sections.
- If the section catalogue is loaded from the property bar the current section is automatically selected.

Speed-up:

- Exporting to Tekla Structures 16 is quicker.

Bug fixes:

- Coordinate axes are displayed in the documentation snapshots.
- Cursor point is not displayed in the documentation snapshots.
- Deleting more result labels at the same time can be undone by one click.
- There is no option for 'mirrored position' on the member dialog. Creating member in a mirrored position can be done by inverting the member direction.
- The ordering was wrong in the result sheet when the title of the column does not fit in the cell.
- The tooltips was not displayed on the icons of the load transfer surface.

Version 4.0

16-12-2009 version 4.0.522

Development:

- In the property sheet the various kinds of selected items can be removed from the selection by clicking on a new icon.
- Dialog windows handling supports, releases and sections can be opened right from the property sheet.
- Adding coordinates manually became easier. Small mouse movements are not deleting the typed coordinates.
- It is possible to add the earthquake load and earthquake analysis results to the documentation.
- Adjusting line to limit line and cut line by cutting line function now also works for more than one line.
- In the Dominant analysis result dialog there is a new button with which now possible to separate dominant result rows which were previously merged to one row.
- Release defining dialog can be opened right from the Link element window.
- Limit value can be set for the diagnostic on the Options dialog. This limit value controls the checking distance among objects.

Speed-up:

- Deleting the design results became faster therefore starting the analysis is also quicker.

Bug fixes:

- A bug related to temperature load on tension bars has been fixed.
- Bugs related to pretension and change in length has been fixed.
- Displaying eccentricity for members built up from one finite element has been fixed.
- The results were the same for triangular finite element nodes in the analysis result sheet. This bug has been fixed.
- The analysis result graphics problems has been fixed.

26-10-2009 version 4.0.521

Development:

- There is a new 'Apply' button on the Select by property dialog window. Using this function will apply the selection but the window won't be closed.
- The Section module could be opened from the bottom sheet in the Standard resistance tab when 'Extreme values by members' view is turned on.

Bug fixes:

- Generating finite element view could lead to program freeze.
- Analysis result sheets might cause program freeze.
- Undo/Redo list is deleted every time when finite element model is generated or analysis started, because the differences between the edited structural model and finite element model could lead to errors.

16-10-2009 version 4.0.520

Development:

- The OpenGL graphical engine has been enhanced. Model view rotating became faster and it is possible to show hidden parts translucently.
- Point support reaction sheet can be generated in the documentation for load cases and for load combinations also.
- The dominant internal forces, deformations and reactions sheets now sorted not only by alphabetic order but also by the number in the names.
- In the Standard resistance tab at the bottom sheet it is possible to show the dominant capacity for bars.
- Load cases and load groups can be moved by using the drag and drop technique. This order is applied by ConSteel in sheets and list also.
- Diagnostics has been enhanced. More geometric problems and possible errors are shown. These often appear when importing model from another program or from drawings. The typical problems are the followings: parts are very close but not reaching each other; columns are not perfectly vertical.
- The limit of the eigenvalue calculation has been increased to 30000 finite element points. This is 2 times higher than the original limit.
- When copying or rotating objects and the number of copies is set to one, then after the first copy is done ConSteel does not cancel copying but more copies can be placed until Escape button is pressed or dialog is closed.
- Program does not allow loading the same section with the same material again. The same sections with different materials are distinguished by a * mark in their names. Macro section names are automatically marked with an increasing number.
- Color settings can be changed in the Options.
- Program stores if grid visibility is turned off in a model.
- While generating documentation there is a feedback about the progress.

Speed-up:

- Generating documentation has become faster.
- Renumbering the objects has become faster.
- Handling of the new type dongle has become faster.

Bug fixes:

- Program used to start numbering the objects from 1 at every restart. Now it's starts from the highest object number.
- The sheet of the link elements in the documentation was wrong.
- Analysis results are more precise for bars with small bow imperfection or with small initial sway.

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- Cold formed tubular section and square section figures were not shown while modifying them neither in the documentation.
 - „Select all” function now selects only the visible objects.
 - Dimensioning was also possible for invisible lines.
 - Placing joints was also possible for invisible bars.
 - “Adjust selected line elements to the limit lines” function was worked incorrectly when the direction was shown opposite to the limit line.
 - “Stretch selected lines” function now moves not only the selected objects but also the linked loads and supports.
 - Program bug has been fixed in Joint module which could lead to program freeze under Windows Vista operating system.

26-08-2009 version 4.0.519

Development:

- ConSteel user interface and documentation now available also in German language.
- When creating tables it is possible to overwrite an existing table. If a table is modified and it was previously inserted into the documentation then it will be automatically updated.
- ConSteel saves the last used layer when closing the model and sets it when the model is opened.
- ‘Adjust selected line elements to limit line’ function now works for circle arcs.
- ConSteel switches on the full screen antialias if the video card of the computer is capable of it.
- Point support can be connected to the structural model by using a link element.

Speed-up:

- Model loading is faster in case of those models that contain design results.

Bug fixes:

- The normal force and shear force figures on beams have been corrected in case of line distributed forces.
- Problems around temperature load placed on eccentric beam elements are fixed.
- Sign mismatch is fixed in the analysis results of triangle elements.
- Arc can be drawn in arbitrary plane by defining the center, start point and angle.
- Error message when applying the function “Chamfer of two selected line elements” to parallel or evasive elements.
- Fixed bug in the function “Curve selected line element” (sometimes it created the complementary arc).
- Appropriate colours on the deformed geometry in direction X,Y or Z.

04-06-2009 version 4.0.518

Development:

- ConSteel user interface and documentation now available also in Romanian language.
- ‘Adjust selected lines function’ now works for more selected lines at once and it is also possible to select a surface as a limit of the extension.
- ‘Cutting line elements function’ can be used when surface element is selected as a limit.

- When ConSteel starts the colour quality of Windows is checked and if the setting is not 32bit (best, true colour) then at request the control panel will be opened and this setting can be changed.
- Diagnostics show if two joints are placed at the same end of the bar.
- Angle dimension representation became better.

Bug fixes:

- Arc copy with rotating and mirroring works correctly in every plane.
- Copying 2D Figures and plates with rotating and mirroring works correctly in every plane when there are round edges or holes and the local system rotates the right way.
- 'Curving selected line function' works correctly also in sloping planes.
- Placing angle dimension works correctly also in sloping planes.
- Welds and cutting appearance has been fixed in the documentation of double plate flange connection placed on gusset plate.

25-05-2009 version 4.0.517

Development:

- The documentation tab has been moved next to the Layer tab in order to make access to documentation related functions much easier.
- New hot key has been added: Alt+P - create snapshot.
- When creating snapshots it is possible to overwrite an existing snapshot. If a snapshot is modified and it was previously inserted into the documentation then it will be automatically updated.
- Surface element's local coordinate system direction can be modified for more elements at once using the functions on the 'Plate' window.
- In the documentation the section names appear in alphabetical order in the following sheets: model information, member sections, and dominant forces for members.
- Point support reactions are shown with the names of the support in the documentation sheets. ConSteel collapses the same rows in the sheet.
- 'Renumbering selected object' function works not only for bars and surface elements but also for all kind of loads, supports and placed joints.
- Line load values and bar parameter labels became more readable.

Speed-up:

- Deleting sheets from the documentation became faster.
- Modifying parameters is faster in case the modification affects other items.

Bug fixes:

- In some cases if a joint was placed in the model ConSteel set pinned connection when connection stiffness could not be calculated (for example rigid connection with ground beam, truss KN, YT joints). With these joints ConSteel does not make any modification but leaves the original stiffness.
- If a section's warping constant (I_{ω}) was zero then the buckling eigenvalues was calculated sometimes as zero and the second order analysis was instable.
- In the analysis results sheet dominant values were sometimes not in correct order and when selecting a row the arrow was not shown in the right place.
- Link element worked incorrectly in case the connection was not in the end of the bar. (Position of the connection was not set to 0 or 1.)
- Using the 'select by property' function it was possible to delete section points which caused error.

- It was possible to delete sections which were not used in the model but in the Joint module. Deleting these sections led to program freeze.
- 'Place section plane' function can be only used if there is a surface element in the model. Previously this function was available when there were only bars in the model.
- When copying surface elements ConSteel keeps the local coordinate settings.
- When Esc button was pressed while checking the analysis results then no result values were shown.
- When creating documentation from a moment end plate beam to beam connection no picture was shown about the end plate.
- Selecting dominant values didn't function properly for 'Tension bar' items.
- For curved bars in the Section module no distance from the starting point of the bar was shown in the design sheets.

10-04-2009 version 4.0.516

Development:

- A new capability of the global resistance verification is that you can select which buckling eigenvalue should be used for the generalised stability calculation. (In the earlier versions it was always the first eigenvalue.)
You can make this choice on the Analysis tab at buckling figure visualization by clicking the right mouse button. From the menu that appears you can select the "Select eigenvalue for design" option. On the lower part of the Design panel which can be run by clicking on the Global resistance icon on the Standard resistance tab there is an option to use either the first eigenvalue or the selected eigenvalue for the calculation of stability resistance.
- There is a new default point support type called „w" to fix the seventh degree of freedom. It's worth to use this support for example if a frame corner is stiffened by plates (beam to column joint) so the warping of a beam has no effect on the other beam.
- On the earth quake effects panel you can set the ratio of the vertical and the horizontal acceleration (a_{vg}/a_g) separately for spectrum type 1 and 2.
- There is a new connection type in the joint module. Within the beam to column joint you can find the Gusset plate joint, which can contain up to three brace connections.
- The table bellow the used capacity figure of the Standard resistance tab can be saved for using in the documentation module or it can be saved into Excel file (.csv)
- The diagnostics module shows the wrong object in pairs in the case of some special problems like "There is overlap between bars!".
- The joint placements can be selected by using the select by property panel.
- The visualization of the support names shows both the name and the type of the support.
- The results of the line support are grouped in the documentation.
- The memory management has been optimized. The software uses less memory.

Speed-up:

- Modification of the structural parameters is about two times faster.
- Switching on-of the visibility of layers is greatly faster.
- Modification of the documentations is faster than before (e.g. removing a chapter).

Bug fixes:

- Welds appear on the haunch on the 3D figure of haunched connections.
- Geometrical verification of the weld on haunch is corrected.
- Copy of the eccentricity in the z direction was not correct in the case of eccentric supports.

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- Copies of a distributed load keep the position settings of the original load in case the load is on the whole length of the beam (A-0, B-0).
 - Copies of beams get the Bow imperfection, Element type and Element group parameters of the original beam.
 - If a point support is connected to a beam, then the copies of this support will be also connected to the new beams when it is copied with the beam.
 - Copies of plates get the Finite element size parameter of the original plate.
 - Snap function works for the end points of arcs.
 - The Renumber load combinations function takes into consideration the Limit state type of the combinations while generating the new names.
 - New layers appear in the objects tree. The names of the layers are refreshed in the object tree if changed. The names of layers appear in word order in the list.
 - Eccentricity of columns pointing from up to down was not calculated correctly in the analysis module.