

## SCIAENGINEER 15.3

The following issues have been fixed in SCIA Engineer 15.3.

Description of the issue	Ticket number
Incorrect placement of the bolts in pinned connection. Incorrectly stored value of borehole diameter used in the calculation of the limits was fixed.	NNLL-A4JGVX
It was not possible to input only 1 bolt in pinned connections. The limit on the bolt input has been removed. Nevertheless, it is necessary to keep in mind that if only one bolt is present, the final VRd resistance is zero.	JBES-A4FHE8
Incorrect design forces were used in connection design for a result class. Now, the correct internal forces are used.	NNLL-A3XEKB
I was not possible to input double-sided connection for a certain geometry. The detection of the frame has been fixed.	NNLL-A3HQ2L
The effective width in EN composite beam check was calculated incorrectly. The calculation of a section position has been modified.	RCCA-A58R3A
The Help chapter covering drawing rules for auto-labels was not conform to the program. The chapter in question has been updated.	NWEB-8UTKW5
Calculation of the automatic mesh refinement was not successful for a specific size of 2D mesh elements. The core of the issue was in an invalid topology during the generation of the mesh resulting in a small triangle with all vertices located almost on one line. A new special condition has been introduced to the algorithm, which is now more robust.	JPOL-9MAB29
There was a translation mistake in the Dutch setup. The Setup has been updated.	JBES-A3YDAJ
The naming of code combinations in Polish language was swapped. The Polish translation has been updated.	NNLL-9ZBGYA
The installation program was not fully translated to Polish. The Setup has been updated.	JPOL-9YWH2R
Solver crashed during calculation. Solver algorithm has been modified.	NNLL-A3WJ5M
A shell with variable thickness was not exported properly to the solver. Export to solver has been corrected.	SROR-9Y6GWJ
Calculation of a model with introduced both physical nonlinearity and general plasticity lead to unexpected results. Currently it is not allowed to use physical nonlinearity and general plasticity together. A new warning has been added to the program: "Currently it is not allowed to use physical nonlinearity and general plasticity together."	ISCS-A25CAA
Some values in the database of steel cross-sections were incorrect. The values in the cross-section database has been updated.	NNLL-A4JLTP
General dynamics calculation sometimes gave incorrect results or caused a crash of the program. Improvements in the solver for better calculation has been implemented.	NNLL-A63EY2
No visible results were available for seismic load cases after the calculation. The finite element algorithm has been updated.	NNLL-A4CBU5
Calculation with general plasticity lead to weird and unexpected results. The solver has been updated to handle properly the general plasticity.	NNLL-A54F23
Model with a line arch resulted in crash of the solver. The export of geometry to the solver has been updated.	HBAI-A5FL79
The default value in the scale for translation were not useful. New default values has been set.	NNLL-A54FSW
Popups were causing problems during calculation. The popups can now be minimized.	NWEB-9B2JYH
In some situations there were problems with the definition of LCS on slabs. A new way to obtain slab LCS has been introduced.	EHOU-A39CR9

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Calculation with general plasticity lead to crash of the program. The solver has been updated to handle properly the general plasticity.	HBAI-A4EJQA
In a specific situation the mesh generation failed. The mesh generator algorithm has been updated.	NNLL-A4CDSH
In a specific situation there were no results for storeys. The finite element algorithm has been updated.	JBES-A6AJ46
In Concrete 15 an incorrect formula for the calculation of $Rho_{w,min}$ for NBN national annex was used. The ÖNORM annex calculation was incorrectly used for NBN. The NBN annex now correctly uses the Standard formula for the calculation of minimal area of shear reinforcement from minimal ratio 9.2.2(5).	NNLL-A47DSP
Shear & torsion check in Concrete 15 cannot handle shear reinforcement with more than 2 legs. The automatic detection the of number of stirrup legs has been improved and it now correctly recognizes the number of legs.	NNLL-A2593Q
The Correction sheet of 2009 changed the value $F_u$ for steel grade S355. SCIA Design Forms standalone calculations still used the previous value. The corrections from the Correction sheet 2009 have been implemented in the steel material library for SCIA Design Forms standalone calculations.	JPOL-A53B9W
The "Trace" output level was accessible to all users. The "Trace" output level is now available only for customers with module esa.33 - SCIA Design Forms - Script Editor.	JBES-A3BDPT
In the EC-EN steel check an incorrect additional moment was used in the 6.3.3 interaction. A discrepancy has been fixed in the additional moment $M_z$ used in the combined stability check. The discrepancy was causing minor variations in the printed unity checks (caused by the varying normal force in the member).	NNLL-A757VS
In the BS steel check the capacity was less than the applied loading, however the member still passed. A units-related issue has been fixed in the Summary output of the Torsion Check.	NWEB-9PFKAX
Unexpected results were obtained while determining buckling data from stability for N Maximal or N Minimal option. For the MIN and MAX options, the load cases causing tensile axial forces were excluded. This led to higher normal forces (compression) and thus higher buckling ratios. For the AVERAGE option, all axial forces were accounted for. Since adapting the algorithm would slow down the calculation, it has been decided, for the time being, to support only the AVERAGE option, since this gives the expected results and accounts for all axial forces.	GVAN-A4LLJA
In Open Checks the Member Data referred to a wrong CLC file when switching the SCIA Engineer language. SCIA Design Forms has been updated to solve this issue.	RCCA-A53MYG
The 'Joint' generated for a (Composed >) I+nPc and (Composed Bridge) D + I was incorrect. The 'Joint' generated for a (Composed >) I+nPc and (Composed Bridge) D + I has been corrected.	GVAN-A5ALAD
AutoDesign for fire resistance produced wrong overall Unity Check. When AutoDesign used a non-linear class, all non-linear combinations were used. This has been fixed and now properly just the combinations in the class are used.	NNLL-A4RE7N
Several SADEFS cross-sections had differences between the gross and initial shapes. The database contained incorrect values for $H_2$ in case of SADEFS cross-sections. This was caused by a historical difference in the SIGMA shape definition for SADEFS. The database has been updated.	NNLL-A65CLY
SCIA Engineer was crashing when requesting the steel code check. Engineering Report was crashing in case a file in the TEMP folder was in use by a different program. This issue has been fixed.	HBAI-A57KUH
Filter names in the Profile Library remained untranslated. The issue in the directory structure causing this issue has been fixed.	-
Values in the database of steel jumbo cross-section have been updated	NNLL-A4JLTP
When the User settings is switched off in EC-EN buckling curves, the lateral-torsional buckling curve is now correctly switched back to 'Default'.	-
The problems in 2D members with variable thickness and openings in shells has been fixed.	SROR-9Y6GWJ
The calculation of the stress on a 1D member for harmonic and Von Karman load cases has been updated.	-
The issue with purging the outdated member data in Open Checks has been fixed.	-
The calculation of a model with defined composite beam data ended with a run-time error message. In this particular configuration, the analysis now terminates with a singularity warning due to a too weak 2D member stiffness. The composite analysis model is not suitable for the analysis of non-composite plates.	NNLL-A57FEF

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In a particular situation, the calculation of a model was terminated with an error message: "Incorrect definition of the free load!" A new message has been added specifying what is wrong in the model. In the reported project, two sub-regions had incorrectly defined variable thickness.	NNLL-A6UJWY
The calculation report for load cases with ELF gave weird result. The names of load cases and values has been fixed. The load cases with ELF will be displayed in the 64bit version. Currently it is not possible to display results from the analyses performed using two different technologies.	NNLL-A72FR5
The resultant of reactions was incorrect if a point support was located in the close vicinity of the end of a line support. The issue has been fixed.	NWEB-98TD26
In the Engineering Report labels were hidden behind beam surface in pictures with rendered frame structure. The issue has been fixed.	NNLL-9YHA99
SCIA Engineer sometimes crashed while displaying 3D stress. The issue has been fixed. The affected existing projects must be recalculated.	NNLL-A5AGCE
The list of Engineering Reports in the batch analysis contained also deleted reports. The issue has been fixed.	JPOL-9YPCH6
In the Engineering Report, some result tables were missing in Chapter Maker. The problem was caused by spaces at the end of load case or load case combination names. The issue has been fixed.	NNLL-A4CMM6
Pictures of 3D displacement and 3D stress were not saved to a 3D PDF. No results were displayed in the 3D PDF. The problems was caused by recent changes in Acrobat Reader and it has been fixed.	RMAA-A26CVS
The calculation of 3D stress on the first cross-section of an arbitrary beam now uses the correct cross-section from the arbitrary beam.	JPOL-9YGHNS
The default width of column in the material library for "other" materials did not fit the page width. The issue has been fixed.	NNLL-A4YE73
While displaying 3D deformations & 3D stresses the value in the legend did not change when the requested result was changed to Ux, Uy, Fix, Fiy, Fiz. The issue has been fixed.	HBAI-A4UHC4
The problem with overlapping texts in the Engineering Report has been solved by switching fonts in the predefined visual styles to Tahoma (instead of Calibri). The problem was caused by mistakes in the definition of the Calibri font in the Windows system.	JPOL-9WEAKF
The issue with occasional crash of SCIA Engineer during display of 3D deformations has been fixed.	NNLL-A47JXK
SCIA Engineer was crashing when using projects with damaged data. The check of structure data has been improved to handle such damaged projects.	NNLL-A4BEYV
The "Colour + lines setting" dialogue opened from the Picture Gallery could not be closed. The issue has been fixed.	-
The pictures in Engineering Report were displayed incorrectly when using clipping box and antialiasing together. The issue has been fixed.	-
Some unique errors in drawing of 3Dstress/3Ddisplacement has been fixed.	-
After a change of reinforcement (e.g. its material), the existing concrete checks are now correctly marked invalid in Engineering Report, Preview window and Table Results.	-
The redundant information concerning the inside coefficients in the wind generator (Eurocode) is now hidden.	-
Double-click in Table Results now shows detailed output for the correct row.	-
The "Open project" button in the top right corner of the "Start project" dialogue opened a selected template as a project. Now this button properly loads a template as a template.	-
Sending additional hidden data columns from Table Results to Engineering Report caused an error in some special cases. Now these columns are sent properly.	-
3D stress and 3D displacement results now supports the new Table Results features (selection link, section highlight).	-
New checks of geometry have been added to Table Input.	-
The tooltip for button "Connect member/nodes" has been adapted.	-
Preview of .ESA files in the Windows explorer has been fixed.	-

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In some cases (e.g. copy via Table Input) the "Member data" were copied twice. This has been fixed.	-
The validity status in Table Results is now correctly respected after un-doing deletion of a tab	-
Table Results tried to load the "detailed" level of Open Check, which led to a warning displayed on the screen. Now, when an Open Check result is loaded into Table Results, the "Output" type is automatically set to "Brief".	-
New types of warning messages have been added to handle situations when something goes wrong while pasting values from MS Excel.	-
The "section highlight" now works properly when the table is sorted.	-
New features in Table Results such as selection link and section highlight now works for all new types of results.	-
New features (selection link, section highlight, detailed output) have been added to the context menu that opens on a right-click on the cell.	-
The name generator in Table Input has been updated.	-
The redundant user interface control has been removed from the picture in the Cursor snap setting dialogue.	-
The project could not be loaded due to extremely small width of the Tree frame. This has been fixed.	-
The grid selection method in Table Results has been unified with Table Input (only continuous selection is supported).	-
The "Palette settings" dialogue caused crash in some special cases. This issue has been fixed.	-
In the ECtools ACI design, a change of the path to results resulted in a new ECtools design. Now the design is independent on the path to the results.	-
In the ECtools ACI design, the validity system check to detect invalid results has been improved.	-
A new command and shortcut have been defined for "Info about point and coordinate".	-
Now it is not possible to launch the detailed check from Table Results if a tab is marked as invalid by the red exclamation mark.	-
Forces pasted to Table Input are now displayed in the correct load case.	NNLL-9XCKBU
Results could not be redrawn using the "Refresh" action button after certain view parameters (e.g. rendering of volumes) were changed. This has been fixed.	NNLL-9YLJ6C
In Table Input the error in pasting of forces from excel (load case values, load case view flag) has been fixed.	NNLL-9WVBGL
The size of some dialogues has been adjusted to fit also screens with minimal supported resolution.	NNLL-A4FJWX
There was an issue concerning the c_o parameter and terrain category in wind load definition for ÖNORM wind load annex. This issue has been fixed.	NNLL-A3YJVK
There were sometimes problems during the design of theoretical reinforcement in Concrete 15 service. The design of theoretical reinforcement for beams has been updated and there are no more issues in the detailed output.	JBES-A3BDA3
Sometimes stirrups were not recognized for shear check in Concrete 15 service. Stirrups are now correctly taken into account for shear and torsion checks.	NNLL-A5AEAR
In some cases, the export of reinforcement areas to the .asf file for Allplan caused the crash of the program. The export of reinforcement to CAD programs has been updated and works now correctly.	NNLL-A4JLTM
Some projects could not be calculated using the code dependent deflections for specific mesh sizes. The calculation algorithm has been updated and the issue has been fixed.	NNLL-A4T7W2
In certain situations, SCIA Engineer crashed during the ULS+SLS design for 2D members. The issue has been fixed.	NNLL-A46LFP
An irrelevant message about voided slabs sometimes appeared in the punching check. This irrelevant message has been removed.	JBES-9ZGDZT
In a specific case, the inner arm and stirrup distance were wrongly calculated during the shear capacity check. The calculation of shear reinforcement capacity has been updated. The z calculation has been corrected and stirrups are now taken into account.	NNLL-A2SKEE
New concrete checks (i.e. Concrete 15 checks) were automatically recalculated after changes to the reinforcement. The automatic recalculation of concrete checks after changes to the reinforcement or modification of concrete member data is now performed only	NNLL-A4BMAV

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in justified situations.	
The results of punching check for linear and nonlinear combination were different although they should have been identical. The issue has been fixed and the results of punching check are now identical for both linear and nonlinear combination.	NNLL-A3ADED
Dummy value $V_{Ed} = 1190$ kN appeared in every first section of each beam during the shear + torsion check. The issue has been solved.	NNLL-A5PKMC
There were problems with some settings in the Polish Annex to EN1992-1-1 related to angle Theta. Theta min and max for the Polish NA has been corrected.	NNLL-9YWLHC
The program calculated wrong value of crack width for a cross-section with several reinforcement layers. The calculation of $s_{r\_max}$ for several layers of reinforcement has been updated.	NNLL-A26B3L
The designed reinforcement in 2D members was not exported correctly to CAD programs. The designed areas of 2D reinforcement isolines are now correctly exported to Autocad.	RMAA-A25JZT
Results of crack check for a combination and a class were different although they should have been identical. The issue has been fixed and the results of crack width check for a combination and a class are now identical.	NNLL-A3GCZV
The program was sometimes crashing during the design of $A_s$ for 2D members. The issue has been solved.	NNLL-A6EE6D
There was a problem in detailing provisions for shear reinforcement. The issue has been solved.	JBES-A3BD2M
In Picture Gallery, the reinforcement labels did not follow the beam. The issue with the labels has been fixed.	JBES-A3BDZY
Strange information appeared in the detailed output in the Preview window. The irrelevant information has been removed from the detailed output.	JBES-A58FNC
There was an occasional problem in the automatic calculation of the structural class. The Structural class parameter has been removed from the Concrete member data in Concrete 15 service, because this value is now directly calculated during the check or design.	NNLL-A2PJW8
In a specific situation, the punching shear capacity was insufficient for half of a beam while performing the mechanical resistance check according to EN1168 4.3.3.2.4. The issue with the punching shear capacity for a hollow core slab has been solved.	RMAA-A4DKV2
For certain configurations, the program froze while performing the code dependent deflections analysis. The issue has been fixed.	JPOL-A4BAHB
The program listed different values for the distance of stirrups while performing the check of shear reinforcement. The stirrup distance is now correctly calculated in end sections.	RMAA-A57H2S
In some situations, the number of stirrup legs was incorrectly determined in the Concrete 15 service. The number of legs is now correctly determined.	RMAA-9ZKHDY
For a specific load the Concrete 15 service gives very low value of shear capacity. In this particular case, the value of compression concrete is very low. Then, value $b_{w1}$ is calculated as a distance between the centre of gravity of the tensile reinforcement and compressive concrete in the direction perpendicular to the shear force resultant. It is necessary to handle situations when the value of $b_{w1}$ is smaller than 5% of $b_w$ . For the time being, this limit has been set to 1mm and, consequently, the value 0.77mm from the project in question is now neglected.	NNLL-A52FGV
In some cases, there was a problem with the check of shear in a member without any shear reinforcement. The interaction check is now not performed if no reinforcement is found in the member. Also, the calculation of shear reinforcement that is to be taken into account has been updated.	NNLL-A52HFZ
The results of the code dependent deflections analysis were deleted after the project name had been changed in the Project Data. The issue has been fixed and the results are now kept in the memory.	NNLL-A47MPT
In some situations, it was not possible to calculate the Design $A_s$ in Concrete 15 service. The reported problem has been fixed.	NNLL-A4ZKDE
There were problems while copying reinforcement around openings. If detailing has been defined in a stirrup zone or if different diameters of stirrups are used in a stirrup zone, the reinforcement cannot be copied to a beam with openings.	NNLL-9X4E87
Only 1D cross-section (without the effective part of the slab) was used in checks of the ribs in Concrete 15 service. Ribs were not supported in Concrete 15 service until version 15.3.	JPOL-9VJHKT
The program was crashing during a linear calculation. This particular problem was caused by an invalid reinforcement defined in one of the beams. As the invalid reinforcement was not displayed, it was difficult to discover the issue. Now also the invalid reinforcement	RMAA-9ZLJG9

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is displayed and can be deleted. Moreover, clearer warning is now issued stating the name of the problematic beam.	
The code dependent analysis ended with an error message. The issue has been solved.	JPOL-A3NJFY
There were problems while importing a profile definition from IFC (namely rectangular hollow section with inner and outer zero radius). Such profiles are now imported as rectangular hollow sections with sharp corners.	NNLL-A4KBU3
When a load was copied from one load case to another in the Load case manager and there was a conflict due to duplicity of load, no warning was issued. A warning about conflicting additional data is now displayed.	JPOL-A3GB2S
Free point load was not taken into account in projects of type Plate XY. Handling of free point loads in projects of Plate XY type has been updated.	JPOL-A4ZCGD
If some parameters were missing during the export of steel connections to IFC file, the program crashed. The IFC export has been updated. If the parameters are missing, the connection is skipped and export continues with the rest of the model.	NNLL-A5AF52
It was not possible to rotate a line grid using the Multi-copy function. The rotation of line grids using the Multi-copy function has been implemented.	NNLL-A5XCYU
If a simple rectangular load panel was input in a slab opening, the edges of that panel were considered as not supported and no load was generated. The detection of edges has been fixed. In existing projects, it is necessary to select the panel and click action button "Update edge selection".	JPOL-A35JJW
When concrete member buckling data were deleted, also the results of linear analysis were deleted, however input of such member data does not require new calculation. The issue have been fixed, deleting member buckling data now keeps the calculated results in memory.	JPOL-A3GAL8
Function "Join surfaces" was crashing if two shells of different shape were selected to be joined. The algorithm has been improved and a warning is now issued that such surfaces cannot be joined.	NNLL-A3T7W7
The help contained incorrect information about point support properties. The help has been updated.	JPOL-A5AHLW
In some situations, an accidental crash occurred during a hidden calculation. Additional tests have been added to the algorithm to prevent accidental crashes.	NNLL-A54DT5
In some particular cases, the load from load panels was not generated correctly on certain beams. The generation of load has been updated.	JBES-A6BBXV
An error occurred during the mesh generation due to wrong definition of some cross-links. A warning with a list of cross-links with an invalid definition is now displayed. The reported issues must be fixed in the project manually. The problem appears if a linked structural node is located very close to the cross-link. It is necessary either to move the linked node exactly to the location of the cross-link or increase the distance between the cross-link and the linked structural node.	NNLL-9V5DSC
Absences on some beams were not taken into account in some situations. The issue has been fixed.	NNLL-A4SFRP
In some projects, all loads generated by the plane load generator were found incorrect and deleted by the Check Structure Data function. The Check Structure Data function has been updated.	NNLL-A3JE7Z
Free point loads were not taken into account in the calculation. The solver has been updated and the issue has been fixed.	NNLL-A4RDT6
There was a problem in determining the effective width of ribs in case of perpendicular slabs with ribs in a particular position in the global coordinate system. The conditions to determine the effective width of ribs have been updated.	NNLL-A59HFZ
The program crashed in case of incorrect definition of free load variability. The test of free load variability has been updated.	NNLL-A4PDWB
There was a problem with cut-outs in shells of variable thickness. The calculation stopped and an error message was displayed. The points defining the variable thickness are now properly handled.	RCCA-9XZNMF
An error message was displayed during the export to Revit. The problem is with the "Document - Materials" database in the Revit plug-in. The database contains duplicate materials. The solution is to uncheck the "Document- Materials" in the "Preferred tables".	IBES-9ZXDM8
The installation of Tekla plug-in failed due to particular environment on a user`s PC. The plugin can be installed using setup.exe, instead of setup.msi.	NNLL-A32CZV
Export to IFC file did not process properly the defined shear reinforcement. Export of stirrups to IFC has been improved, however, there is still a limitation. The defined stirrups are distributed uniformly along the beam length after the export. The real positions spe-	NNLL-A46NEA

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cified in stirrup zones in SCIA Engineer are not taken into account.	
The graphical representation of the value of a climatic load was incorrect ( 1000 times bigger than the real value). The load values are now properly displayed.	NNLL-A5WE7L
The intersections of shell elements created unexpected lines in some particular configurations. One of the shells was made as a surface of translation using spline representation of the edge line. The algorithm computing the intersection has been modified. Now even these configurations are properly handled. In the existing projects, it is necessary to regenerate the intersection manually.	JPOL-99HCK7
In some particular cases, it was not possible to add a beam to an existing load panel beam selection. The selection of members for load transfer from load panels has been improved.	NNLL-A45GJN
The values of wind load generated using a gust factor (ASCE7-10 Directional Procedure) were incorrect. The formula for wind load generation has been fixed.	MHEA-A6QDCZ
The local coordinate system of mesh elements did not reflect the rotation of the member local coordinate system. This issue has been solved.	NNLL-9YADRQ
The results in nodes with multiple supports were incorrect. It is not possible to combine in one node several supports if some of them are nonlinear. The program now checks such input and issues a warning.	JBES-A4MDGS
In some cases, it was not possible to run 3D wind load generator. The issue has been fixed.	NNLL-9Y8FDM