

SAFE[®] 2014 (v14.1.0) Release Notes

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Notice Date: 2015-06-12

This file lists all changes made to SAFE since the previous version. **Most changes do not affect most users.** Incidents marked with an asterisk (*) in the first column of the tables below are more significant and are included in the ReadMe file.

Changes from v14.0.0 (Released 2014-02-21)

User Interface

Enhancements Implemented

*	Incident	Description
	24067	An enhancement was made under Options > Graphics Color to allow control over graphics printer colors. This allows creation of color PDF files.

Graphics

Enhancements Implemented

*	Incident	Description
	79633	An enhancement was implemented for displaying the model when gridlines are not present in the model, so that the model now fully fills the model window.

Analysis

Enhancements Implemented

*	Incident	Description
	58734	Computation of the nonlinear behavior of link elements has been parallelized to increase the speed of analysis for nonlinear static load cases. This will primarily impact models having a large number of link elements generated to represent line or area spring supports. Analysis results may change slightly in sensitive or ill-conditioned models, but should otherwise not be affected.
*	79573	The speed of nonlinear static analysis has been increased for models containing many linear shell elements.

Beam and Slab Design

Enhancements Implemented

*	Incident	Description
*	71674	Reinforced concrete design and prestressed concrete design have been added based on the new CSA A23.3-14 code.
*	79838	Reinforced concrete design and prestressed concrete design have been added based on the new ACI 318-14 code.

Punching Shear Design
Enhancements Implemented

*	Incident	Description
*	67830	An enhancement has been made to the punching shear check of corner columns for all codes that consider linear elastic shear distribution along the punching perimeter to exclude the effect of the cross moment of inertia, I23. The inclusion of I23 for corner columns was making the checks overly conservative compared to experimental results. The punching checks for the ACI, Canadian, Chinese and Indian codes were affected. This change was requested by several users and is supported by examples in textbooks, PCA and PTI publications.

Results Display and Output
Enhancements Implemented

*	Incident	Description
	64910	An enhancement was made to improve the speed for displaying load contours for assigned area loads when the number of area objects was large.

Miscellaneous
Enhancements Implemented

*	Incident	Description
	66897	The version number has been changed to v14.1.0 for a new minor release.

User Interface and Display
Incidents Resolved

*	Incident	Description
	63292	An incident was resolved where changing a blank grid label to a non-blank grid label in the grid dialog box would not update the grid labels on screen.
	65497	An incident was resolved where the Help > About SAFE form did not always show the name of the user or company in the field "This product is licensed to". No results were affected.
	65995 73093 73315 73829 75001 77472	An incident was resolved where the forms defining punching shear perimeter and punching shear openings did not display correctly, sometimes causing the software to terminate.
	66097	An incident was resolved where clicking the Units button caused a crash on certain machines where the file MSFLXGRD.ocx was not registered. This issue could be avoided by manually registering the MSFLXGRD.ocx file within the SAFE 2014 installation folder. Registration of the MSFLXGRD.ocx file is now explicitly done during installation.
	66978 77213	An incident was resolved where the Options > Auto Save Model command did not show the correct form.
	68802	An incident was resolved where the insertion points for lines were not being displayed. No results were affected.

*	Incident	Description
	69036 70265 71988 73786 74599 77179	An incident was resolved where, in some cases, the graphical image would not appear on the form used to define column properties. No results were affected.
	73153 76908	An incident was resolved where a rectangular beam section would not plot correctly in the form used to define the section. This was a display issue only and did not affect results.
	74990	An incident was resolved where trying to convert load combinations that included other load combinations to nonlinear load cases would sometimes cause the software to terminate. This is now handled correctly. However, this is not recommended.

Graphics

Incidents Resolved

*	Incident	Description
*	64545 66433 65576 69566 72555 72818 74056 74575 75860 76554 77233 77455	An incident was resolved where shell uniform loads would not display correctly due to tolerance issues when merging overlapping areas, sometimes causing the software to terminate. This was a display issue only and did not affect results.
	65463 73843 73894 76437	An incident was resolved where setting View > Set Display Options > Slab Internal Ribs caused the program to crash if the ribs were only in one direction. This was a display issue only and no results were affected.
	77510	An incident was resolved where the surface load display showed the max and min values on the status bar incorrectly when all loads were zero. The graphical display itself was correct.

Drafting

Incidents Resolved

*	Incident	Description
	63838 69489	An incident was resolved where the right-click context menu operations were not working for tree and model windows for the architectural layer.
	68750	An incident was resolved where the text box for "dy" shown in the lower left corner when drawing lines was accepting values in database units rather than in display units. The "dx" text box was working correctly in display units.
	73326	An incident was resolved where models imported into SAFE would have difficulty in adding objects if the models were located very far from the origin (many orders of magnitude away compared to size of model). This, however, is still not recommended as it introduces inaccuracies. The model should be moved closer to the origin before import.

Analysis Incidents Resolved

*	Incident	Description
	43721 76906	An incident was resolved by reducing the amount of memory used during the meshing operation. This should allow the meshing of larger models with fine meshing that previously could not be performed.
	73427	An incident was resolved where the automatic check to determine whether to run the analysis in the GUI process or a separate process was reversed. Models with more than 1500 joints should run in a separate process, and smaller models should run in the GUI process. However the behavior was reversed. This could have caused larger models to run slower or to be more likely to run out of memory. No results were affected. When the option was explicitly chosen (not Auto), the behavior was correct.

Slab/Beam Design Incidents Resolved

*	Incident	Description
	36808	An incident was resolved where an area that was changed from type "Stiff" to any other area type was not being designed as a slab, and no reinforcement was produced for that area after analysis and design. This was just a design issue and analysis results were unaffected.
	65729	An incident was resolved where design stations were being removed when opening an unlocked model for stations that were located at strip intersections. This only changed the design output locations. Results were consistent with the design locations actually present. Now design stations at strip intersections are retained.
	70160	An incident was resolved for AS 3600-01 and AS 3600-09 reinforced concrete section design where minimum reinforcement was enforced based on slab thickness (h) instead of effective depth (d). This error produces slightly larger reinforcement at cross sections where minimum reinforcement governed. Results were always conservative.
	79505	An incident was resolved where the strip-design table was not being displayed when some of the stations could not be designed because they were too thin for their demand moment and there was no space to add compression reinforcement. Now this situation is trapped and only those affected stations show up as failed.

Punching Shear Design Incidents Resolved

*	Incident	Description
	33359	An incident was resolved for stud-rail design using the CSA A23.3-04 code in which stud rails were being specified as "0x0-##/##@#" for columns where the shear capacity exceeded the code allowable instead of reporting the failure mode.
	72701 75891	An incident was resolved where the punching shear perimeter for edge and corner columns for the Canadian A23.3-04 code was not being limited based on clause 13.3.3.3. This error was inadvertently introduced in v14.0.0 and only affects that version.
	76048	An incident was resolved where the $v_f > v_{max}$ was not being reported for punching shear checks with reinforcement, but instead a large number of links were being reported.

Results Display and Output Incidents Resolved

*	Incident	Description
	63354	An incident was resolved where reports could not be generated in html format on certain machines, depending upon the location of and access rights to temporary folders.

Data Files

Incidents Resolved

*	Incident	Description
	75079	An incident was resolved where the saved font setting was corrupted in a particular file that did not allow the file to be reopened.

Database Tables

Incidents Resolved

*	Incident	Description
	64039	An incident was resolved where torsion was incorrectly reported in Display > Show Tables > Strip Forces when design strips were not parallel to the x-axis. This was an issue in the tabular output only and design was not affected.

External Import/Export

Incidents Resolved

*	Incident	Description
	63024	An incident has been resolved so that the software no longer imports the "~Dummy" load case from earlier versions of ETABS. Now the "~Dummy" load case found in earlier files will be deleted upon opening of files.
	64325	An incident was resolved where circular columns were not being imported from DXF Files.
	76387	An incident was resolved where importing .F2K text files exported from SAP2000 with more than one load case could have the first load case corrupted. In this case the first load case would only include the first load pattern with a unity multiplier. Results were consistent with the model as imported.

Documentation

Incidents Resolved

*	Incident	Description
	63940	An incident was resolved to correct minor documentation errors in the concrete design manual for TS 500-2000. No design results were affected.
	68636	A documentation error was corrected in Chapter 3 of the SAFE Reinforced Concrete design manual page 3-16, Equation AS 8.2.10 and SAFE Design Verification EXAMPLE AS 3600-09 RC-BM-001, page 7 where phi was missing in the denominator.