

SAFE v22.3.0 Release Notes

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Notice Date: 17-October-2024

This document lists changes made to SAFE since v22.2.0, released 01-October-2024. Items marked with an asterisk (*) in the first column are more significant.

Design – Composite Beam

Enhancements Implemented

*	Ticket	Description
	10908	An enhancement to composite beam design per IS 11384:2022 was implemented. The plastic design capacity of composite beams is now computed with the equations listed in IS 11384 Table 17 for beams that support a solid slab, and with equivalent equations for beams that support a ribbed deck. The plastic design capacity was previously computed using slightly different assumptions regarding the stress distribution in the area of concrete in compression. Differences of up to 3% in resulting plastic capacity have been observed.
	10910	An enhancement to composite beam design per Eurocode 4-2004 and IS11384 : 2022 was implemented. Users can now specify in the composite beam design preferences whether shear studs are to be welded through the deck, or threaded through holes in the deck. This choice affects the computation of the stud strength for shear studs in filled deck ribs with ribs transverse to the beam being designed. Previous versions of ETABS assumed shear studs were always to be welded through the deck.

Installation and Licensing

Enhancements Implemented

*	Ticket	Description
*	10885	The version number has been changed to 22.3.0 for a new intermediate release.

Design – Composite Beam
Incidents Resolved

*	Ticket	Description
	10909	An incident affecting composite beam design per IS 11384:2022 was resolved. The minimum percentage of composite action to be applied to beams was computed per Eurocode 4-2004 instead of IS 11384:2022 and accordingly underestimated for certain combinations of grade of steel and beam span, although it never went below 40%. When this occurred, the bending capacity and effective moment of inertia of the design were still sufficient to ensure its adequacy. Also the percentage of composite action of the designs was displayed in both the interactive design form and the output, with the user having the option to choose a higher percentage in the form.

Structural Model
Incidents Resolved

*	Ticket	Description
	10901	An incident was resolved where spurious load transfer warning messages were given when a negative load was applied to null lines. Results are unaffected. This issue only affects SAFE v22.2.0.

SAFE v22.2.0 Release Notes

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Notice Date: 30-September-2024

This document lists changes made to SAFE since v22.1.0, released 13-July-2024. Items marked with an asterisk (*) in the first column are more significant.

Design – Composite Beam

Enhancements Implemented

*	Ticket	Description
	10822	An enhancement to the Interactive Composite Beam Design form was implemented. When the user interactively designs a beam which has an auto select section with the form Show All Alternates option selected and chooses a failing design as the final selection, SAFE displays a form asking for confirmation.
*	10881	An enhancement to composite beam design was made with design per the Indian IS 11384:2022 code added.

Design – Slab

Enhancements Implemented

*	Ticket	Description
	628	An enhancement has been made for the punching-shear design report. The formatting of the design results has been improved for all design codes. Additionally, beginning with ACI 318-19, the report now shows a detailed design procedure that includes all the implemented equations with references to the code.

Detailing

Enhancements Implemented

*	Ticket	Description
	10803	An enhancement was made in tendon detailing views where the tendon vertical point was added in plan view and slab/beam elevations.

Installation and Licensing

Enhancements Implemented

*	Ticket	Description
*	10730	The version number has been changed to 22.2.0 for a new intermediate release.

Structural Model

Enhancements Implemented

*	Ticket	Description
	1396	Multiple enhancements pertaining to spring properties have been implemented in the program as follows 1) Linear, Gap, Hook, and Multi-linear Elastic link properties are now available in the program for use in specification of spring properties and can be defined under Define > Section Properties > Link/Support Properties menu. 2) Program now allows users to specify nonlinearity for point spring properties in two ways - Quick Specifications or From Link Properties. Under Quick Specifications, users could specify, tension only, compression only, or elasto-plastic behavior for the springs in the vertical direction, as available in previous versions of the program. If the nonlinearity is specified as From Link Properties, then multiple link properties can be used in the definition of point spring properties for nonlinear behavior. Note that if the later option is used as the source of nonlinearity then for a given direction, link effective stiffness and simple spring stiffness specified for the point spring are additive. 3) For line and area spring properties, spring stiffness and nonlinearity can now be either User Defined or from Link property.

User Interface

Enhancements Implemented

*	Ticket	Description
	1598	An enhancement has been implemented to display objects by color of spring properties assigned to them. This option for display is available under View > Set Display Options. When this option is selected for display, point, line, and area objects are displayed by color of point, line, and spring properties assigned to them respectively. If an object does not have any spring assignment, it is shown in dark gray color.
	10636	An enhancement has been made to display overwrites for concrete beams and slab design strips in right click information form. Additionally, detailing information is now also available for beam and strips in right click information form.

Data Files

Incidents Resolved

*	Ticket	Description
	10810	An incident was resolved to fix the column section drop panel assignment while importing from the text file.

Drafting and Editing

Incidents Resolved

*	Ticket	Description
	10827	An incident was resolved to correct the orientation of the architectural layer while importing from DXF and the angle value is set to a non-zero value.

Loading

Incidents Resolved

*	Ticket	Description
	10812	An incident was resolved where non-uniform line load was causing a warning message for loss of loads. This was just a reporting issue and load was transferred correctly.

Structural Model

Incidents Resolved

*	Ticket	Description
	10783	An incident was resolved where analysis was not able to start due to error "Unable to Write Shells". In a very rare case, area meshing was generating duplicated joints.