ETABS® Version 17.0.1
Release Notes

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Notice Date: 2018-07-27

This file lists all changes made to ETABS 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.

Changes from v17.0.0 (Released 2018-05-31)

Licensing and Installation
Enhancements Implemented

*	Incident	Description
	217927	The version number has been changed to v17.0.1 for a new minor release. ETABS v17 is available as a 64-bit version only in order to provide better performance.

Modeling
Enhancements Implemented

*	Incident	Description
	216061 218564	An enhancement was made for reinforced-concrete auto-hinges where the effective yield stress values for rebar are now used to obtain hinge capacities instead of the minimum yield stress. For older models which may not have an effective yield stress specified for the rebar the effective yield stress defaults to the minimum yield stress. The user can modify these values. Note that fiber hinges were already using the effective strength values for rebar stress-strain curves starting with version 17.0.0. Because the effective strength values were not being exported to the model text file (.e2k, .$et), imported models with fiber hinges containing rebar could fail to run in v17.0.0. These values are now exported and imported, and any models where the effective strengths for rebar materials are found to be zero are corrected by setting the effective strengths equal to the corresponding minimum strengths.
	217200	An enhancement was made to make the error checking that is performed during the meshing of decks use a relative area tolerance of 0.01% instead of the previous value of 0.1% so as to be consistent with slab meshing, which was already using a value of 0.01%. An absolute check is now also performed. In addition, general meshing is now being used for decks after performing cookie-cutting when further meshing based on maximum size is requested. Previously, rectangular meshing was used after cookie cutting in this case. General meshing provides better results for triangles and distorted quadrilaterals.
	217577	An enhancement has been made to provide more user control over frame auto mesh options where minimum number of segments and/or maximum segment length can now be assigned to frames.
	219244	An enhancement has been made to automatically assign a small amount of translation mass to link elements that are generated for shear (V2 or V3) hinges when "Model Hinges as Separate Link Elements (Permits FNA)" has been selected using the command Analyze > Analysis Model for Nonlinear Hinges. Previously, such mass was only assigned for hinge-links that activated the axial or rotational degrees of freedom. The addition of this small mass may improve FNA convergence behavior, and will avoid warning messages about no mass at these hinges that are generated when

*	Incident	Description
		running Ritz modal cases. Models with shear hinges modeled as links may exhibit small changes when run in the new version. The effect should be small for well-conditioned models, and may be improved for models that had difficulty converging in previous versions.
	219454	An enhancement was made to allow adding of Tendons and Design Strips into a Group.

Frame Design
Enhancements Implemented

*	Incident	Description
*	216530	An enhancement has been made to add a new Chinese Steel frame design code named "Chinese 2018". It is based on the GB50017-2017 steel-frame code, the GB50011-2010 seismic code, and the JGJ99-2015 tall-building code.
	219046	A change was made in concrete frame design per the "SP 63.13320.2012" code to how load combinations are to be tagged as long-term loading. Previously all load combinations which had lateral loads (seismic or wind) were tagged as short term and all the remaining combinations were tagged as long term. Now those load combinations that contain only dead, superimposed dead, or prestress loading are tagged as long term and all the remaining combinations are tagged as short term. Tagging a load combination as short-term or long-term affects the factor Gammab1, which in turn affects the design values of the compressive and tensile resistance of concrete, Rb and Rbt. In addition to this change, the "Gamma_b1 Short Term" parameter is removed from the preferences menu as this value must always be 1.0 (unity).

Graphics
Enhancements Implemented

*	Incident	Description
	217898	Enhancements have been made to the DirectX 3D display mode to better handle openings in slabs and shrunken-object display. Other minor DirectX display issues were corrected (including selection, size of the moving red dot, extruded Section Designer shapes, and color of the bounding box).

Data Files
Enhancements Implemented

*	Incident	Description
	219178	An enhancement was made to add the "Project Information" data to the model text file (.e2k, .$et) so that this information can be retained for export/import. This data is specified using the command File > Project Information.

Drafting and Meshing
Incidents Resolved

*	Incident	Description
	217234 217653	An incident was resolved where the option Snap to Grid Intersections sometimes did not work correctly in plan views when using the DirectX graphics mode, depending upon the zoom level. Results were not affected.
	217244 217480 218092	An incident was resolved where, in certain cases, the general mesher would change the shape of embedded objects or openings due to a dimension tolerance issue. When this happened, the error was obvious.
	217476	An incident was resolved where, in rare cases, the operation to merge two shells into one would not work when expected. The error was obvious, and results were consistent with the model. The error was limited to version 17.0.0.
	217953	An Incident was resolved where the command Edit > Edit Shells > Explode User Mesh to Shells would create shell objects with their shell section property assignment set to None rather than using the section property assigned to the parent shell object that had the user mesh. This would result in the new shell objects being excluded from the analysis, although it was easily corrected by re-assigning the expected section property. In addition, the new shell objects will have their Floor Auto Mesh assignments set to "No Auto Mesh", so that no further meshing will occur unless this assignment is later changed by the user.
	219456	An incident was resolved where openings could not be drawn for certain walls. This happened when the wall connectivity was such that the 1-2 edge was not at the bottom of the wall.

Modeling
Incidents Resolved

*	Incident	Description
*	217680 217824	An incident was resolved where the "Check Model" operation caused multiple incorrect error messages to be displayed and failed to complete when the "Check Meshing for All Stories" and/or the "Check Loading for All stories" options were checked. The results were not affected.

Loading
Incidents Resolved

*	Incident	Description
*	218122	An incident was resolved where certain load combinations reported the same value for the maximum and minimum response when the two values should have been different. Separate maximum and minimum values were being reported for a load combination only if ALL the contained load cases and combinations were double-valued, whereas separate values should have been reported if ANY of the contained load cases or combinations were double-valued. This error only affected version 17.0.0.

Analysis
Incidents Resolved

*	Incident	Description
	218321	An incident was resolved where an error could occur while creating the analysis model under the following rare condition: The model included a Walking Vibration analysis, and the model had been imported from a text file multiple times. This error only affected version 17.0.0.

*	Incident	Description
	218524	An incident was resolved where the analysis could stop with an error message when running nonlinear static or direct-integration time-history load cases for models containing a large number of shell elements. This error was not common, but it was more likely when there were many layered shells with multiple layers and/or integration points. When this memory error occurred, results were unavailable for the affected load cases. Memory can still be exceeded for larger models on machines with limited RAM, but this incident was related to a fixed-size buffer that was independent of the amount of RAM, and has been corrected.
	218566	An incident was resolved where nonlinear static load cases with load application specified to use Displacement Control would fail to run when generalized displacements were used in either of the following two situations: (1.) When generalized displacements were used as Additional Control Displacements, the analysis model could not be created and no load cases would be run. (2.) When a generalized displacement was used as the Monitored Displacement, the analysis would run, but the affected load case would terminate immediately with a warning that the monitored displacement was zero; no results were available for that load case. Both of these errors affected version 17.0.0 only.
*	219889	An Incident was resolved where the creep and shrinkage strains calculated during nonlinear staged construction load cases for frame objects could be incorrect when run in a multithreaded environment. This would normally be the case on any machine with more than 2 cores, unless the environment variable SAPFIRE_NUM_THREADS was set to 1 (unity). When this error occurred, results could vary from machine to machine, or from run to run on the same machine. Only ETABS version 17.0.0 was affected. Correct results could be obtained using v17.0.0 by setting the environment variable SAPFIRE_NUM_THREADS = 1 in Windows Control Panel before starting ETABS v17.0.0. This error only affected staged-construction load cases run in ETABS Ultimate when the time-dependent option was enabled for the load case, materials were defined to consider creep or shrinkage strain, and the stages in the load case had non-zero duration.

Frame Design
Incidents Resolved

*	Incident	Description
	213155 213961	An incident was resolved for steel frame design per the Russian code "SP 16.13330.2011" in which the section modulus was switched between major and minor axes bending when a singly-symmetric section, like a Tee beam or a Double-Angle section, had Wn,minor > Wn,major. The principal direction needed to rotate by 90 degrees in these cases. This affected the demand/capacity ratio for singly-symmetric flexural members having Wn,minor > Wn,major for bending about 3-3 axis, and was unconservative. Typical sections were not affected.

Results Display and Output
Incidents Resolved

*	Incident	Description
*	217781 218953 218882	An incident was resolved where, in some cases, a report could not be generated. This particular error was limited to version 17.0.0 and only affected models containing multi-stepped load patterns. Results were not affected.
	218279	An incident was resolved where nonlinear static load cases with load application control specified as Quasi-Static were run using the default Monitored Displacement, rather than the specified displacement. Static pushover plots could not be plotted. All other results were consistent with the use of the default monitored displacement. This error affected only version 17.0.0.
	218368	An incident was resolved where the strain value reported in the "Area Diagram" form shown by right-clicking an area element while viewing the strain diagram was incorrectly displayed in stress units. The strain value shown on the main display screen and in the database tables was correct.

*	Incident	Description
	219136	An incident was resolved where models with nonlinear frame hinges using option "Model Hinges as Separate Link Elements (Permits FNA)" would cause the story response plots for shear and overturning moment, as well as the database tables of these quantities, to produce obviously incorrect values when the hinges were located at the ends of columns with no rigid offsets. This also affected user-defined Section Cut results when they were based on Groups that included such column members. No other results were affected. This error did not occur when the hinges were located away from the exact ends of the column, or when the hinges were modeled within the elements (not as separate links).
	219204	An incident was resolved where an error message was generated when trying to plot the deflected shape for a nonlinear load case (static or time-history, including modal and direct-integration) for models containing an isotropic hinge assigned to a wall object. No results were affected, but the deformed shape (including animations) could not be plotted. Linear load cases were not affected. This error was not common, since most hinges assigned to a wall object are Fiber P-M3 hinges. The only hinges types that can be assigned to a wall that caused this error were Shear V2 with Isotropic hysteresis specified, and Interacting (non-fiber) P-M3 hinges, which are always isotropic.

User Interface
Incidents Resolved

*	Incident	Description
	218202	An incident was resolved where using the option to "Copy to SD Section" in the frame section property form would not work correctly if a "User" rebar size for the reinforcement in a concrete frame section was used. The error was happening based on the order of operations. If the rebar type was first changed to "User" and then the rebar area specified the error would not happen. However, if the rebar area was first specified and then the type was changed then the error would occur.

Database Tables
Incidents Resolved

*	Incident	Description
	217964 219092	An incident was resolved where the section cut table was blank when displaying the tabulated results of section cuts that were saved from the screen or defined based on quadrilateral cutting planes. An inadvertent check was introduced in version 17.0.0 causing the problem and it only affected this version. Section cuts defined by group were not affected.
	219400	An incident was resolved where, in the Story Drifts table, the label for nodes where the maximum drift occurred was left empty. This affected version 17.0.0 only.

Data Files (.EDB, .E2K, .$ET)
Incidents Resolved

*	Incident	Description
	219436	An incident was resolved in which the model text file (.e2k, .$et) was unable to be saved when T-shapes or L-shapes within a section-designer section had corner rebar sizes specified as 'None' instead of a bar size. No results were affected.

External Import/Export
Incidents Resolved

*	Incident	Description
	217768	An incident was resolved where the binary STL file created for 3-D printing could not be read by other software when the generated mesh for floors or walls contained triangular shell elements. Models with only quadrilateral shell elements were not affected. This issue affected ETABS version 17.0.0 only.

Application Programming Interface (API)
Incidents Resolved

*	Incident	Description
	219705	An incident was resolved for the API (Application Programming Interface) where calling the SetMaterial function multiple times, in conjunction with one of the functions for specifying the property values, could modify the property values of already defined materials. The unintentionally modified values were visible via the forms and database tables.
	219869	An incident was resolved where the API (Application Program Interface) functions cCaseStaticNonlinear.GetLoadApplication and .SetLoadApplication did not support the load application type for quasi-static control. Results agreed with the model.