SAP2000 v26.3.0 Release Notes

Notice Date: 27-June-2025

This document lists changes made to SAP2000 since v26.2.0, released 03-February-2025. Items marked with an asterisk (*) in the first column are more significant.

API

Enhancements Implemented

*	Ticket	Description
	10808	The API documentation has been updated to include the RespCombo.SetCaseList_1 and RespCombo.GetCaseList_1 functions which were previously added to the API in v22.0.0.
	11302	An enhancement was made to the Application Programming Interface (API) function SectCut.GetResultLocation to always report the X, Y, and Z values of the result location. Previously these values were reported as zero if the section cut was defined to report results at the default location.

Data Files

Enhancements Implemented

*	Ticket	Description
	9537	An enhancement was implemented to add the ASTM A500, Grade C, Round HSS material property to the United States material library. Previously the ASTM A500, Grade C material in the library was for rectangular HSS. The library now has both materials available.
	11329	A change was made to use either the default text editor on the user's machine or Notepad (if available) when a text file is opened from within the software. Examples include viewing the model text file or text files that define time-history records. Previously WordPad was being used for this purpose, but this is no longer available on many machines.

Database Tables

Enhancements Implemented

*	Ticket	Description
	10205	An enhancement was implemented to consider the Selection Only option when displaying the database table "Groups 2 - Assignments". Previously all objects were always included in the table.
	11450	An enhancement has been made to improve the speed of importing Microsoft Access database files, reducing the time for larger files from hours to minutes.

Design – Aluminum Frame

Enhancements Implemented

*	Ticket	Description
*	11430	An enhancement has been made to implement the design for stability using the Direct Analysis Method for the AA 2015 and AA 2020 Aluminum frame designs. In particular, Chapter C 'Design for Stability' of the AA 2015 and AA 2020 is implemented in combination with Appendix 8 'Approximate Second-Order Analysis' of the AISC 360-16 to amplify the required design moments. Effective length method is also included.

Documentation

Enhancements Implemented

*	Ticket	Description
	9668	A change was made to the design-overwrites description for the live-load reduction factor (LLRF) to clarify that specifying a value of 0 results in LLRF = 1 as the program-determined value, since SAP2000 currently does not automatically calculate live-load reduction factors. The help documentation was also updated for consistency.

Drafting and Editing

Enhancements Implemented

*	Ticket	Description
	10889	An enhancement has been implemented to keep the measure tools active until the Esc key is pressed or another tool is selected. This allows multiple measurements to be made without needing to select the command each time.

External Import and Export

Enhancements Implemented

*	Ticket	Description
	11176	An enhancement to the import of IGES files was implemented. "Subfigure definition" and "singular subfigure instance" entities (similar to AutoCAD "block definitions" and "block references") are now processed. The "IGES Import" form features a new option to import subfigure instances. If this option is selected, for each subfigure instance, the entities making up the parent subfigure definition are imported with appropriate offsets and rotations. If the option is not selected, and unlike in previous versions of the program, the entities making up the subfigure definitions are not imported.
	11185	An enhancement to the export of CIS/2 files was implemented. When a model does not contain any exportable objects, a specific message stating the issue is now displayed instead of a generic error message.
	11218	An enhancement has been made to export the current printing view to DXF in 3D coordinates. This option is available on the Printing Form when in DirectX graphics mode.

Graphics

Enhancements Implemented

*	Ticket	Description
	8149	The display of the Load Case Tree (command Display > Show Load Case Tree > Show Loads) has been enhanced to show the scale factors applied to each load pattern and/or acceleration load in each load case. Similarly, the load values shown on the structure for a load case (Display > Show Object Load Assigns > Load Case) now include the scale factor applied to each load pattern and/or acceleration load. Previously the plotted load values were shown for the load pattern without scaling, and acceleration loads were not included.

Installation and Licensing

Enhancements Implemented

*	Ticket	Description
*	11204	The version number has been changed to 26.3.0 for a new intermediate release.
	11236	The following improvements have been made to sign-in licensing within the application. (1) The authentication process for sign-in licensing has been modified to now use the system browser on the client machine. This improves the sign-in experience by eliminating the connecting popup that was displayed on subsequent runs after signing in the first time. This change will require users to sign in to SAP2000 the first time this new version is run. (2) Personal Access Tokens (PATs) can now be used for scenarios where the normal authentication flow is not possible, such as for headless machines. (3) Remote checkout licensing is now available for dark-site or air-gapped machines that do not have internet access.

Loading

Enhancements Implemented

*	Ticket	Description
	11201	An enhancement was made for NBCC 2020 response spectrum function to add smaller time-steps for computing the intermediate acceleration based on Log-Log Interpolation as specified in Section A.4.1.8.4.(6) of NBCC 2020 code. This change may cause response spectrum results to change for NBCC 2020 function. The previous implementation was using a linear interpolation between two given periods which provided slightly conservative values.

Miscellaneous

Enhancements Implemented

*	Ticket	Description
	11190	The name of the link property type "Damper - Sumitomo Viscoelastic" in the Link/Support Property Data form (Define menu>Section Properties>Link/Support Properties) has been changed to "Damper - Sumitomo Rubber GR4". No changes were made to the behavior of the link property itself.

Results Display and Output

Enhancements Implemented

*	Ticket	Description
	11008	An enhancement was made to consider the Show Edges display option such that the area edges can be shown or hidden when displaying soil pressure diagrams.

Structural Model

Enhancements Implemented

*	Ticket	Description
*	7799	An enhancement has been made to the nonlinear layered shell section property (Define > Section Properties > Area Sections) to add the option of a Hinge type layer. In a Hinge type layer, the membrane behavior in two orthogonal directions can be represented by two nonlinear fiber P-M3 hinges and a linear or nonlinear shear material. For a layer with a concrete type base material, the program can automatically generate the fiber P-M3 hinges based on the area object geometry and specified rebar ratios. Hinge layers are only active for 4-node area objects which do not have auto-meshing assigned. The nonlinear behavior of the hinge layer is active in nonlinear static, staged construction, and direct-integration time-history load cases. This feature can be used to model reinforced concrete shear walls, similar to the wall hinges available in ETABS.

User Interface

Enhancements Implemented

*	Ticket	Description
	4517	A change was made to the right-click Information form for Line objects to adjust the options available for selecting the Design Procedure. Two options are now available, "From Material" and "No Design". Previously the list included the various frame design types, but could be confusing because you could select a design type that did not match the material specified in the frame section property assigned to the line object, resulting in no design. This change simplifies the options and makes them consistent with the database tables, but does not change the actual design.
	11012	A change was made to update the terminology used on the Energy Functions form used when defining plot functions. "Modal Damping Energy" has been changed to "Global Damping", "Link Damper Energy" has been changed to "Nonlinear Viscous Damping", and "Link Hysteretic" has been changed to "Nonlinear Hysteretic Damping". This is only a change to the user interface and does not affect any results. The new names are more descriptive of the sources of energy that are included in the selected energy measures.

*	Ticket	Description
	11034	An enhancement has been implemented that adds tool buttons in the View toolbar to show/hide tendons, cables, solids, and links in the model. The options to show/hide joints, frames, and areas were already available in the View toolbar.

Analysis

Incidents Resolved

*	Ticket	Description
*	11403	An incident was resolved where zero-length link elements, including those generated automatically to represent line springs and area springs, could fail to converge in nonlinear static, staged-construction, and direct-integration time-history load cases when the geometric nonlinearity was set to Large Displacements and P-Delta. This issue only affected v26.2.0.

API

Incidents Resolved

*	Ticket	Description
	11381	An incident was resolved in the Application Programming Interface (API) where the GroupDef.Delete function would allow the ALL group to be deleted. The ALL group is a reserved group that is not meant to be modified or deleted.
*	11412	An incident was resolved wherein the 'Spacing' argument of the cSapModel.PropFrame.SDShape.GetReinfLine and SetReinfLine API methods was not retrieved or set with the correct units.

Data Files

Incidents Resolved

*	Ticket	Description
	11317	An incident has been resolved that fixes the label UKB1016XX305X272 in BSSHAPES2006 database where the "X" was duplicated. The label has been changed to UKB1016X305X272 in the BSShapes2006.PRO and BSShapes2006.XML files. Any old model that uses the above section will automatically be updated to use the revised section label when the model is opened or imported in the version of the program with the fix.

Database Tables

Incidents Resolved

*	Ticket	Description
	11353	An incident was resolved in the database table for the Costa Rica 2010 response spectrum function, where the overstrength column had the wrong value when the selected Ductility Overstrength option in the form was 3, 4, or 6. This also affected the exported text file. This was only a database table issue and did not affect response spectrum load case results, which agreed with the values displayed in the form.
*	11397	An incident has been resolved where the properties of frame sections of type Joist would get corrupted when a table unrelated to frame section definitions was edited interactively. Also, a change has been made to not reimport frame sections if frame section tables are not included in the interactive editing.

Design – Concrete Frame

Incidents Resolved

*	Ticket	Description
	11271	An incident has been resolved in certain concrete frame design codes in which torsion design was always done, ignoring the overwrite option 'Consider Torsion Design?'. The affected codes are as follows: ACI 318-19, ACI 318-14, ACI 318-11, ACI 318-08/IBC2009, ACI 350-20, AS 3600-2018, AS 3600-09, CSA A23.3-19, CSA A23.3-14, Eurocode 2-2004, Italian NTC 2008, KBC 2009, KBC 2016, TS 500-2000, and TS 500-2000(R2018).

Design – Concrete Shell

Incidents Resolved

*	Ticket	Description
	11241	An incident has been resolved for ACI 350-20 and Eurocode 2-2004 concrete shell design in which shear demand over concrete shear capacity and over maximum allowable shear ratios were not saved and shown correctly on the contour plot. Previously, both ratios were shown to be zero for all elements. In addition, the design of shell elements with one layer of reinforcement has been fixed. Also, for the Eurocode 2-2004, the right-click design result display for shear has been updated to reflect the relevant and correct design parameters.

Design – Steel Frame

Incidents Resolved

*	Ticket	Description
	11252	An incident has been resolved for steel frame design according to EN 1993-1-1:2005/A1:2014 and EN 1993-1-1:2022 in which the member moment strength is now correctly calculated based on the section class for section designer, general, rectangular, and circular sections. Previously, the member moment strength of section designer and general sections were always calculated using the elastic section modulus while that of rectangular and circular sections were always calculated using the plastic section modulus.
	11346	An incident has been resolved for the EN 1993-1-1:2005 and EN 1993-1-1:2022 steel frame designs in which the values of MEd in the right-click design report and design table were inconsistent.
	11374	An incident has been resolved for the EN 1993-1-1:2022 steel frame design in which section classification was displayed incorrectly in the design report. Also, an incorrect error message was shown for the design case in which shear demand exceeded shear capacity. In addition, an option whether or not consider combined bending, shear and axial as described in Section 8.2.10 of the EN 1993-1-1:2022 was added in the overwrites. By selecting this option, the moment capacity Mn,Rd will be further reduced by using fy,red instead of fy in the calculation. The design of wide-flange section with offsets at the ends of member has also been resolved. Previously, the design could not be performed and an error message was produced.
	11377	An incident has been resolved for the AISC 360-05, 360-10, 360-16, and 360-22 in which B1 was calculated incorrectly when the value of K1 was overwritten. B1 was correct when K1 was determined by the program.

Documentation

Incidents Resolved

*	Ticket	Description
	11360	An incident has been resolved in the AISC 360-22 steel frame design code documentation, in which the load combination factor for snow-load (SL) has been updated to 0.10 instead of 0.15 for ASD on pages 25-27. This was a documentation issue only. The design algorithm was not affected.

Drafting and Editing

Incidents Resolved

*	Ticket	Description
	11274	An incident was resolved where, sometimes, some of the selected objects will not replicate depending upon the order in which the selections were replicated. This was true when an object was being replicated with the option to delete original object at a location where an object of same type already existed and was also selected to be replicated and deleted in the original location. The issue affected all object types and all replication types.

External Import and Export

Incidents Resolved

*	Ticket	Description
	11411	An incident affecting the export of CIS/2 files was resolved. When a model contained both joint restraints and joint springs, exporting the model to CIS/2 generated an error and the export did not proceed. As a workaround, it was possible to turn off the display of joint objects, select everything else, and export the selected objects. While the resulting CIS/2 files did not include all the original joint data, it did include internally created joints at the required locations. This incident affected SAP2000 v24.0.0 to v24.2.0.

Graphics

Incidents Resolved

*	Ticket	Description
	10820	An incident was resolved where the deformed shape of a frame object shown in an extruded view was offset from its expected location when the cardinal point was 10 (centroid) or 11 (shear center) and these were different from the midpoint of the section. This was a graphical display issue only, and no results were affected.
	11230	An incident was resolved to improve the display of contour plots when output transparency was not set to zero. Some triangles were being rendered twice.
	11331	An incident was resolved to display the shell loading at correct location when the display coordinate system had its origin different from the global. This was an issue in DirectX graphics mode only.
	11363	An incident was resolved where section designer sections would not display in extruded view when the fillet radius was less than the specified dimension length tolerance.

Loading

Incidents Resolved

*	Ticket	Description
	10522	An incident was resolved where the scale factor applied to a load pattern assigned in a load case was not being applied to any SeaState loads that were defined in that load pattern. The SeaState loads were being applied with a scale factor of unity, while any other loads in the load pattern were being scaled as expected. This has been corrected. Note, however, that it is still not recommended to specify scale factors other than unity to SeaState load patterns in a load case because the centrifugal loads due to rotational velocity should vary as the square of the velocity, while acceleration loads scale linearly. If a scale factor other than unity is applied to the load pattern, the scale factor will apply to the forces and moments computed from the original accelerations and velocities, not to the velocities and accelerations themselves.
*	11469	An incident was resolved where the influence loads generated for moving-load analysis were incorrect if the loads were applied to frame objects that were treated as truss elements. Frame objects are treated as truss elements under the following conditions: moments M2 and M3 are released at both ends, torsion T is released at one end, there are no end offsets, there are no joint offsets, the cardinal point is at the centroid, and the frame object is not meshed. When this occurred, components of the vertical influence load could act in the horizontal direction, and vice-versa. Only influence loads and their corresponding moving-load cases were affected. No other load cases were affected, including step-by-step vehicle-live load cases, which produced the correct results.

Results Display and Output

Incidents Resolved

*	Ticket	Description
	1003	An incident was resolved for linear direct-integration time-history analysis where the reported forces for base reactions and joint reactions did not include forces carried by the adjacent frame and shell elements corresponding to stiffness-proportional damping. Now these forces are included in the reactions, making the results consistent with those for nonlinear direct-integration time-history analysis. Note that section cuts and element joint forces do not include these stiffness-proportional damping forces. This is consistent with the element internal forces and stresses, which are based on deflection (not velocity) and follow the material stress-strain curve. Mass-proportional and modal damping forces are grounded (act on the joints, not the elements) and are not included in any reactions, section cuts, element joint forces, or element internal forces and stresses for direct-integration time-history. This has not changed. Likewise, modal time-history load cases always use modal damping, so damping forces are excluded from reactions, section cuts, element joint forces, and element internal forces and stresses. This has not changed.
	11287	An incident was resolved where the contour display and the database table for soil pressures would in some cases invert the max/min of enveloping load cases and combinations.
*	11309	An incident was resolved where Staged Construction load cases with both Instantaneous Load and Time Dependent Items in the same stage may report incorrect base reaction and joint reaction results. This was a reporting error for the reactions and did not affect other analysis results. The issue affected SAP2000 v26.0.0 - v26.2.0.
	11310	An incident was resolved where nonlinear energy by group results viewed through Plot Functions (Display menu > Plot Functions, Nonlinear Energy by Group function type) and the database tables (Display menu > Show Tables, Element Nonlinear Energy by Group table) showed excessively larger or illegal numbers. This was a reporting issue for element energy results and only affected SAP2000 v26.2.0.
	11370	An incident was resolved to correctly account for user specified contour range for frame force displays when results were requested in units different from the model units. Default contour ranges were always correct irrespective of display units specified. This issue only affected the display.
	11413	An incident was resolved to display the correct contour colors for frame torsion diagrams. This was a screen display issue only.

Structural Model

Incidents Resolved

*	Ticket	Description
	11439	An incident was resolved where frame objects, assigned to mesh at their intersections with other frame objects, sometimes failed to mesh when the frames intersected in a 3D plane that was not parallel to the global axes.
	11470	An incident was resolved where running the analysis for a model with area springs assigned to an edge of an area object that also had thickness overwrites based on a joint pattern or specified points would result in an "Error in creating analysis model", and the analysis would not run. This was not common.

User Interface

Incidents Resolved

*	Ticket	Description
	11189	An incident was resolved where moving the mouse over the frame force diagram for multi-valued plots (max/min range) would only show the maximum value. Now both the maximum and minimum values are shown. This display issue was limited to v26.0.0 thru v26.2.0.

*	Ticket	Description
*	11376	An incident was resolved in the user interface where the program could terminate when displaying the details of more than one cable section-property definition, one after another. This was a user interface issue only and did not affect results.
*	11409	An incident was resolved where an abnormal condition occurred when modifying output options on the Report Setup form. This did not affect results. This is a follow-up to previously released Ticket 10980 where this issue was corrected for models from v25.2.0 or earlier. This latest change will correct affected models from v25.3.0 and newer.
	11455	An incident was resolved where the 'Check Full Curve' button in the P-M2 and P-M3 Interaction Curve Definition forms and 'Check Curve' button in the M2-M3 Interaction Curve Definition form could incorrectly report a non-convex curve as acceptable.
	11473	An incident was resolved where an open display form would in rare cases freeze the program during parallel processing of design.