

# ETABS® 2016 (Version 16.0.2) Release Notes

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**Notice Date: 2016-11-18**

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 v16.0.1 (Released 2016-10-26)**

### **User Interface**

#### **Enhancements Implemented**

<b>*</b>	<b>Incident</b>	<b>Description</b>
	96572	An enhancement was implemented where an Apply button was added to the display design information form for the following seven types of design: Steel Frame, Concrete Frame, Shear Wall, Steel Joist, Composite Beam, Composite Column, and Steel Connection.

### **Miscellaneous**

#### **Enhancements Implemented**

<b>*</b>	<b>Incident</b>	<b>Description</b>
	97720	The version number has been changed to v16.0.2 for a new minor release.

### **Modeling**

#### **Incidents Resolved**

<b>*</b>	<b>Incident</b>	<b>Description</b>
	97211	An incident was resolved where analysis may not have been able to start if a Parametric PMM hinge was used with the "User Defined" option for cyclic degradation. When this issue occurred, the results were unavailable. The issue did not affect Parametric PMM hinges with the "None" or "Based on BUCDE points" options for cyclic degradation.
	97320 97449 97752	An incident was resolved where nonlinear frame hinges used in an element with rigid end offsets were incorrectly located at the end of the entire element length instead of at the end of the clear length. This issue only affected models where the hinges were modeled as separate link elements and only when the hinge was located at a relative distance of 1.0 in a frame element with end offsets assigned. This issue only effects ETABS v16.0.0 and v16.0.1. Previous versions of ETABS were unaffected.
	97498	An incident was resolved where multi-storied frames were not meshed at some intermediate joints on stories other than the one the frame was assigned to.
	97545	An incident was resolved where in certain instances converting a material stress-strain curve to user-defined after viewing the stress-strain plot could lead to obviously incorrect strain values.

## Loading

### *Incidents Resolved*

*	Incident	Description
	97150	An incident was resolved for the Peru NTE E.030 2014 response spectrum function where parameter $I_p$ was also being used for the parameter $R_0$ in the analysis instead of using the value of $R_0$ actually specified on the form. The results were overly conservative. A work-around was to convert the Peru NTE E.030 2014 response spectrum function to user-defined.

## Analysis

### *Incidents Resolved*

*	Incident	Description
*	97759	An incident was resolved where incorrect results could be produced for iterative nonlinear direct-integration time-history load cases for models where all degrees of freedom were restrained. No other type of load case was affected. The joint displacements for these load cases did not necessarily match the applied ground displacements, or were not necessarily zero at joints without applied displacement load. Forces and stresses were consistent with the incorrect joint displacements. The incorrect displacement results were random and could vary from one run to the next. Only models where all degrees of freedom were restrained, whether explicitly or implicitly, were affected, which is not a common case. When this occurred, the error was obvious in that the joint displacements did not match the specified values, which could be zero.

## Frame Design

### *Incidents Resolved*

*	Incident	Description
	96958	An incident was resolved for the Russian concrete frame design code SP 63.13330.2012 where the design forces after amplification for design to consider interactions of "Torsion + Shear" and "Torsion + Moment" were excessively high. This has been improved. The design was conservative.

## Results Display and Output

### *Incidents Resolved*

*	Incident	Description
	97043	An incident was resolved where additional mass assigned to areas that were not meshed, but included for mass only on rigid diaphragms, were not being included in the "Mass Summary by Group" table under total Mass X and Mass Y columns. They were being correctly included in the analysis so the results of the analysis were not affected by this reporting error.
	97667	An incident was resolved where the cumulative energy components were not displayed correctly. Additionally, the Total Energy Components table was enhanced to display results for direct integration time histories and for nonlinear static cases that have more than one output step.

## Data Files

### *Incidents Resolved*

*	Incident	Description
	97510	An incident was resolved for CoreBrace BRB sections which were imported incorrectly when the model default database length units were other than "inch" unit. Older models with database units other than "inch" will automatically reimport any CoreBrace sections used when the file is opened in the new version.

*	Incident	Description
	97512	An incident was resolved where composite beam design overwrites for "PreComp DL Limit, L/", "Super DL+LL Limit, L/", "PreComp DL Limit, abs, in", and "Super DL+LL Limit, abs, in" on the deflection tab were not written to the *.E2K text file.
	97657	An incident was resolved where in rare cases some models could not be imported from text files. This would happen when the model to be imported was in a different set of units then the default program units at the time of import and automated wind loads were present in the model.

**Application Programming Interface (API)**  
**Incidents Resolved**

*	Incident	Description
	97279	An incident was resolved for the Application Programming Interface (API) where the argument "Duration" for functions GetStageDefinitions_1 and SetStageDefinitions was declared as Integer instead of Double. Similarly, the argument "Age" for functions GetStageData_1 and SetStageData_1 was declared as Integer instead of Double. These functions are members of SapModel.LoadCases.StaticNonlinear. Values that are set or returned by these functions are rounded to the nearest integer. This has been corrected in the newly provided functions GetStageDefinitions_2, SetStageDefinitions_1, GetStageData_2, and SetStageData_2 where arguments "Duration" and "Age" are declared as Double. The old functions are retained for backward compatibility, but use of the new functions is recommended to correct this issue. "Duration" and "Age" are specified as days, and the error could be significant for shorter time periods using non-integral numbers of days. Analysis results using the old functions will agree with the integer number of days actually set and visible in the load case definitions.