


it exists). These RMB commands are only available in the Status, Part Name or Technique columns.

Column Description

Status

A blank cell means no mesh exists for this part.

The  icon means the part is meshed. You can change attributes of this part but the change will only be applied the next time the dialog is submitted.

The  icon means the instance has been suppressed.

The  icon means meshing failed with the given controls. Note that a previous mesh may still exist in the part.

"Skip" means the part will be skipped when meshing.

"Don't Skip" resumes the Status to its previous value.

Part Name (non-editable)

Name of the part.

Technique (non-editable)

Shows the default meshing technique for a particular part when PME is first launched. This column does not change when meshing technique is changed (either from PME or the Mesh module). This is useful as a reference to know which meshing technique (usually structured hex mesh) can still be used for any given part.

The  icon means 3D solid, free.

The  icon means 3D solid, structured.

The  icon means 3D solid, swept.

The  icon means 3D shell, free.

The  icon means 3D shell, structured.

Element Shape

Select from Hex, Tet or Quad Shell to specify the element shape. If Quad Shell is selected for a 3D part, then you must select a surface that will act as the bottom surface. A top surface will be determined, then a mid-surface created and meshed with quads from the two surfaces.

Method

Select this option to determine how the part will be meshed

Direct - The part will be meshed as requested in Element Shape

Virtual Topology - Assigns automatic virtual topology (with default settings) to the part. The part will then be meshed with hex elements if possible. If not, tet elements will be used.

Extrude - Generates a new mesh part by extruding from a user-selected bottom surface and extruding through a thickness. This is useful for parts that may have started out as flat pieces and were formed into complex geometries.

Automatic - Tet meshes only. PME will mesh with the provided controls. If unable, the element size is reduced until a mesh is achieved. This iteration is performed a maximum of five times. After five attempts, virtual topology is applied and another meshing attempt is performed.

Geometric Order

and meshed. If an instance of the original part exists in the assembly, it will be replaced by the meshed instance of the temporary part. This temporary part will not be displayed in the manager list of the PME dialog. You can, though, select it from the Part: drop-down menu and review it. Also note that in the PME dialog, the original part Technique will still refer to the original part, not the temporary part.

The temporary part will contain a suffix in its name. By default it is _mp. If this syntax creates a conflict, please edit the file pmeConstants.py and change the value of the variable partSuffix. This variable is available at the top of the file and you can edit with any text editor.

If the Technique or Method entry is changed and a temporary part is no longer needed, the existent temporary part will be deleted.

PME meshes the parts at part-level. Therefore, independent instances will not be meshed. Also, although having dependent instances for each part is suggested it is not a requirement. The tool will still mesh each part. It will not be able to do any assembly-level operation such as replacing an instance.

PME uses customData to store information. This allows data to be persistent between sessions. The first time a database is loaded, it does not check if a mesh already exists. Thus, the table status may be blank for meshed parts. After PME is submitted for the first time, it will track each part's mesh status.

The Element Size and Thickness columns cannot be edited. These columns launch another dialog, therefore the RMB menus are not available.

Columns Part Name, Technique, Element Errors, Element Warnings, and Volume are non-editable.

The Suppress/Resume instance functionality is not the same as the "Skip" functionality. One suppresses the instance but still meshes the part. "Skip" does not mesh the part but does not affect the instance.

- Limitations
1. The plug-in will not work if the part instances available in the assembly do not have corresponding parts. Such part instances must be removed before using the plug-in.
 2. If a user suppresses or resumes a part instance from the model tree in Abaqus/CAE, the status will not be updated in the Part Manager Extension plug-in.
 3. If a part has a suppressed status (red cross) in the Part Manager Extension plug-in dialog, the plug-in will not mesh the part.
 4. When there are several part instances in the model database a delay can be observed in launching the plug-in from the plug-in menu.

Disclaimer

The attachments to this article are subject to certain usage conditions. Please [click here](#) for details.

Revision History

04 May 11	Release 1.1-1
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KEYWORDS plug-in, plugin, 4794

ATTACHMENT

pme.zip	answer_4794_pmeiconsolidswept.png	answer_4794_pmeiconshellstructured.png
answer_4794_fig2.jpg	answer_4794_pmeiconmesh.png	answer_4794_pmeiconcross.png
answer_4794_pmeiconsolidstructured.png	answer_4794_pmeiconshellfree.png	answer_4794_fig1.jpg
answer_4794_fig3.jpg	answer_4794_pmeicondeactivated.png	answer_4794_pmeiconsolidfree.png

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RATING On a scale of 1-5, how would you rate the technical content of the article?

Please rate this article...

LET US KNOW IF THIS ARTICLE NEEDS TO BE ENHANCED

UNCLEAR MISSING INFO DUPLICATE OUT OF DATE ERROR DETECTED

MY FAVORITE CONTENT