

Modal Analysis of a Composite Monocoque - Geometry

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Problem Specification

1. Pre-Analysis & Start-Up

2. Geometry

3. Mesh

4. Physics Setup

5. Numerical Solution

6. Numerical Results

7. Verification & Validation

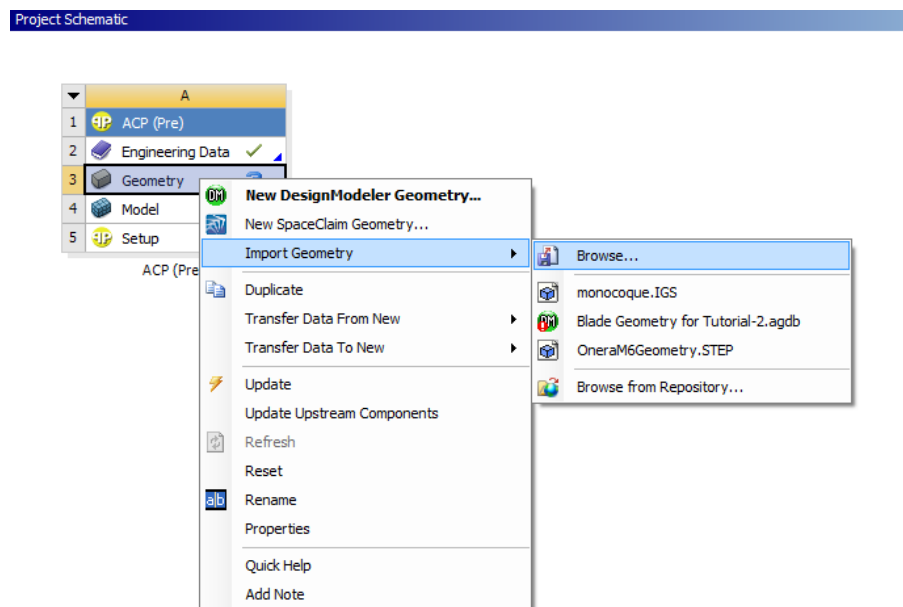
Exercises

Comments

Geometry

Import the Geometry

Please download the .igs file for the geometry here: [monocoque.IGS](#). To import the geometry, right-click **Geometry**, mouse-over **Import Geometry** and select **Browse**. Then, navigate to the location where you saved the monocoque.igs file and click Open. A green checkmark should now appear next to Geometry.



Build the Geometry

Double-click **Geometry** to bring up Design Modeler. On the top toolbar, select **Units** and then choose **inch**.

This particular geometry contains solids, surfaces and line bodies. In default setting, ANSYS does not build the line bodies, but we can change that easily. Under Detail of Import1, change Line Bodies to **Yes** as shown below:

Details View		
[-]	Details of Import1	
Import	Import1	
Source	C:\Users\en-fsae\Desktop\monocoque.IGS	
Base Plane	XYPlane	
Operation	Add Material	
Solid Bodies	Yes	
Surface Bodies	Yes	
Line Bodies	Yes	
Simplify Geometry	No	
Simplify Topology	No	
Tolerance	Normal	
Replace Missing Geometry	No	
Stitch Surfaces	Yes	

Now Click **Generate** to build the geometry.

This will make sure line bodies will be built along with the surfaces and solids.

Prepare the geometry for meshing

The following video shows how to prepare the geometry for composite analysis with ANSYS.

[Go to Step 3: Mesh](#)

[Go to all ANSYS Learning Modules](#)