

AIM Heat Conduction in Hollow Cylinder - Physics Set-Up

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Problem Specification

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2. Geometry
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Physics Set-Up

Specify Material

Select the **Physics task**, then press **Material Assignments** under **Physics Definition**. AIM should detect the body in question and highlight it. By default, the entire object is made of structural steel and we can add our other constraints.

Add Boundary Conditions

The internal and external temperatures can be input as Solid Thermal Conditions. Follow the highlighted blue **Next Step** button to add these temperatures via **Add > Solid Thermal Conditions > Temperature**. Another way of adding temperature is to press the Physics button in the workflow and press **Solid Thermal Conditions > Add > Temperature**. Select the respective inside and outside faces and assign them the appropriate temperatures. Once you have selected a face, in order to assign it a temperature, you must press the blue '+' button and then input the correlating temperature. The outside surface temperature was said to be 80 degrees Fahrenheit and the inside surface was said to be 400 degrees Fahrenheit.

Press **Physics** in the workflow below to return to the main **Physics** display and press **Solver Options > Output Controls 1 > Output type > All**. Do this for both **Output Specification 1** and **Output Specification 2**.

Return to the **Physics** task and press the blue **Solve Physics** button in order to calculate solutions.

Go to Step 5: Results

Go to all ANSYS AIM Learning Modules