

ANSYS AIM Thermal Analysis of an Electrical Wire - Pre-Analysis & Start-Up

Author(s): Joshua Wallace & Steve Scampoli, ANSYS Inc.

Problem Specification

1. Pre-Analysis & Start-Up
2. Geometry
3. Physics Setup
4. Numerical Solution/Results
5. Verification & Validation

Pre-Analysis & Start-Up

Pre-Analysis

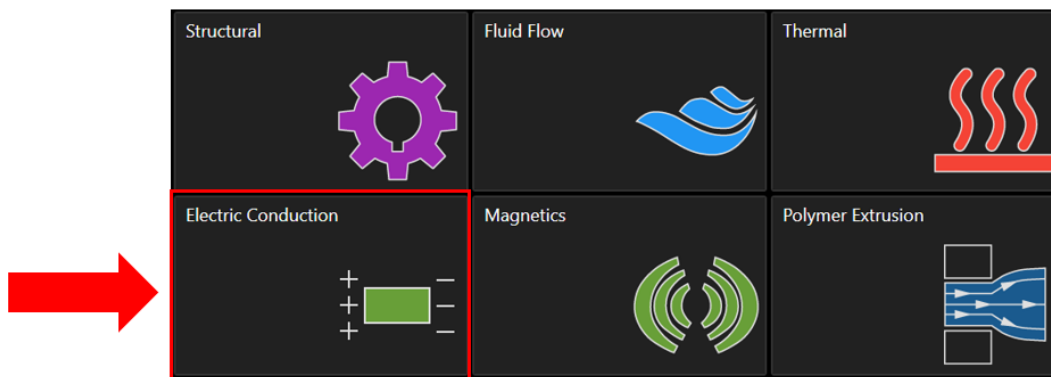
Using ohm's Law $IR = V$ the voltage drop along the wire is calculated to be 0.1 volts. The resistivity is also calculated using the equation $\rho = RA/L$, which is calculated to be $3.06796(10)^{-7} \Omega ft$. We are now ready to begin the simulation.

Start-Up

A few words on the formatting on the following instructions:

1. Notes that require you to perform an action are colored in blue
2. General information will be colored in black, but do not require any action
3. Words that are **bolded** are labels for items found in ANSYS AIM
4. Most important notes will be colored in red

Now that the pre-calculations are finished, we are ready to begin the simulation in ANSYS AIM. Open ANSYS AIM by going to **Start > All Apps > ANSYS 18.2 > ANSYS AIM 18.2**. Once starting page has opened, select the **Electric Conduction** template as shown below.



[Go to Step 2: Geometry](#)

[Go to all ANSYS AIM Learning Modules](#)