Thermal Stresses in a Bar - Numerical Solution

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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

Numerical Solution

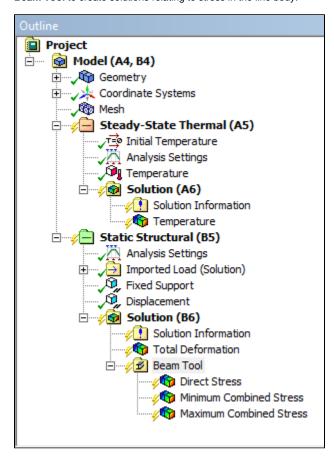
In the *Outline* window, again notice that there are two solution boxes: one for the temperature solution and one for the structural solution. We will first set up the solution for the temperature solution, to be followed by the structural solution.

Temperature Solution

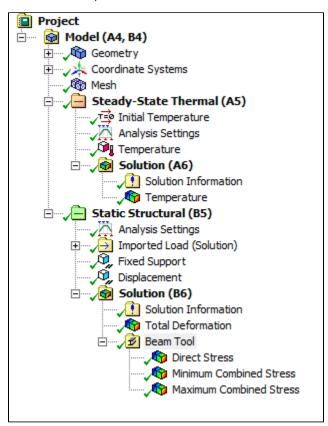
In the Outline window, look under Steady-State Thermal (A5) and click Solution (A6) to bring up the temperature solution sub menu in the menu bar. In the temperature solution sub menu, click Thermal > Temperature to create a temperature solution.

Structural Solution

In the Outline window under the structural (B5) click Structural (B5) to bring up the structural solution sub menu. In the structural solution sub menu, select Deformation > Total. This will create a deformation solution in under the structural solution. Next, select Tools > Beam Tool to create solutions relating to stress in the line body.



Finally, press Solve to solve the simulation. Note: you may have to solve the problem twice: once to solve the thermal problem and once to solve the structural problem. You'll know if the solutions are solved once the lighting bolts in the above figure become green check-marks.



Go to Step 6: Numerical Results

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