3D Steady Diffusion - Pre-Analysis & Start-Up

Author(s): Keith Works, Cornell University

Pre-Analysis & Start-Up

Pre-Analysis

In the *Pre-Analysis* step, we'll review the following:

- **Governing Equations:** We will review the governing equations that need to be solved in this problem.
- **Boundary Conditions:** We will go into more details about the boundary conditions that are applied in this problem.

Governing Equations

Since we are neglecting the convection terms, the diffusion equation we want to use looks nearly identical to the heat equation. Therefore, we can solve the heat equation with the flow terms disabled and then simply reinterpret the results as if we had solved the diffusion equation.

Boundary Conditions

Outer Boundary:

The outer boundary will be set to "wall". Then we will set a temperature boundary condition of 1, which corresponds to concentration as we discussed earlier.

Please see the hand out below for more details:

Diffusion_Sim_L...ANSYS_Steps.pdf