

Flow Over Heated Flat Plate Having Unheated Starting & End Length

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ABSTRACT

The aim of this work is determining the variation of temperature over the length of the heated plate having unheated starting and end length, each having dimension of 1m x 1m x 0.3m. The fluid is atmospheric air flowing at a speed of 1m/s, and the flow is laminar. Since it is conjugate, laminar, steady-state heat transfer problem, so “*chtMultiRegionFoam*” solver is to be used in OpenFoam v-7. Further validation of result is done, a similar analysis is done by Mohammad Najafi and Richard R. Scott[1], and they got the same Temperature, hydrodynamic and thermal boundary layer variation.

References:

- 1) Mohammad Najaf'i and Richard R. Scott, Average heat transfer coefficient for laminar & turbulent flow over partially heated flat plates, *IEEE*, 1996.