

EXPERIMENTAL INVESTIGATIONS OF NATURAL CONVECTION HEAT TRANSFER FROM V-TYPE FINS

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Abstract

Background: The use of vertical base rectangular fin array is very common in practice for many applications involving cooling by natural convection. In such fin arrays, the tall vertical fins become ineffective because of lateral interactions of the boundary layers. The horizontal rectangular fin array is ineffective due to stagnancy of fluid flow in the near fin region. The V fins are developed to overcome these limitations.

Method of Approach: The present work is an attempt to investigate experimentally the effect of included 'V' angle and height of the fin on natural convection heat transfer from a single V type of fin attached to vertical base plate in air as ambience. The study includes experimental investigations followed by flow pattern studies using simple smoke techniques.

Keywords: V fin, Natural convection heat transfer