

Effects of the Air Supply Outlets Geometry on Human Comfort Inside living Rooms

By

Eng. Taher Mohamed Abou-deif Ismail

**A Thesis Submitted to the Faculty of
Engineering at Cairo University in Partial
Fulfillment of the Requirements for the
Degree of DOCTOR OF PHILOSOPHY**

In

MECHANICAL POWER ENGINEERING

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Title of Thesis: Effects of the Air Supply Outlets Geometry on Human Comfort Inside living Rooms.

Key Words: (living rooms -thermal comfort -ADPI – Shapes of supply and extracts openings)

Summary:

The ratio (T_v/L) can be used to predict the Air Diffusion Performance Index (ADPI) and expected occupant comfort for a number of different types of air supply outlets.

In the current ASHRAE Handbook Chapters on room air distribution, ADPI, using the ratio of T_v/L , is the recommended method to predict the percentage of points within a space that meet the effective draft temperature criteria for comfort.

The Objective of the current study is to validate the current T_v/L and corresponding ADPI values currently presented in the ASHRAE Handbook, and Develop T_v/L and obtainable ADPI values for other types of air supply outlets.

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