











Layer Flow over a Vertical Surface Embedded in a Porous Medium via HAMAD Formulations,” *World Applied Sciences Journal*, vol. 12, no. 4, pp. 519-530, 2011.

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## NOMENCLATURE

$C_p$	Specific heat (J/Kg.K).
$C_f$	Friction Coefficient.
$g$	Gravitational acceleration ( $m/s^2$ ).
$h$	Convection heat transfer coefficient. ( $W/m^2.k$ ).
$K$	Permeability ( $m^2$ ).
$Nu$	Local Nusselt number.
$q'$	Heat transfer rate per unit length (W/m).
$\varepsilon$	The porosity of the porous medium.
$u, v$	Velocity components in x and y directions.
$U, V$	Dimensionless velocity components in x and y directions.

$T$	Temperature (K).
$\theta$	Dimensionless temperature.
$P$	Pressure (Pa).
$x$	Axial coordinate along the plate (m).
$X$	Dimensionless axial coordinate along the plate.
$y$	Normal coordinate normal to the plate (m).
$L$	Length of vertical plate (m).
$Y$	Dimensionless vertical coordinate to the plate.
$t$	Time (s).
$\tau$	Dimensionless time.
$Gr$	Grashof Number.
$Da^*$	Modified Darcy Number.
$Fr^*$	Modified Forchheimer Number.
$Pe$	Peclet number.
$Ec$	Eckert Number.
$T_d$	Thermal Dispersion Effect Number.

## Greek letters

$\alpha_m$	Effective thermal diffusivity of the porous media
$\alpha$	Molecular thermal diffusivity.
$\alpha_d$	Dispersion thermal diffusivity.
$\gamma$	Coefficient of mechanical dispersion.
$d$	Pore diameter.
$\mu$	Dynamic viscosity
$\nu$	Kinematic viscosity