

Erratum: “A Novel Approach to Low Profile Heat Sink Design” [Journal of Heat Transfer, 2010, 132(9), p. 091401]

J. Stafford, E. Walsh, V. Egan, P. Walsh, and Y. S. Muzychka

The error within this paper is in Eq. (1). The exponent on the square bracket term is given as 1/3 when it should be 1/m. The correct form of Eq. (1) is shown below including the text preceding and following the equation.

For a rectangular duct and an isothermal boundary condition, the dimensionless heat transfer is defined as [11]

$$\text{Nu}_{\sqrt{A}} = \left[\left(\frac{2f(\text{Pr})}{\sqrt{L_{\sqrt{A}}^*}} \right)^m + \left(\left\{ 0.6135 \left(\frac{f \text{Re}_{\sqrt{A}}}{L_{\sqrt{A}}^*} \right)^{1/3} \right\}^5 + \left\{ 3.24 \left(\frac{f \text{Re}_{\sqrt{A}}}{8\sqrt{\pi\epsilon}^{1/10}} \right) \right\}^5 \right)^{m/5} \right]^{1/m}$$

where $f(\text{Pr})$, $f \text{Re}_{\sqrt{A}}$, $L_{\sqrt{A}}^*$, and m are defined in Ref. [11]. The duct aspect ratio ϵ is b/a .

References

- [11] Muzychka, Y. S., and Yovanovich, M. M., 2004, “Laminar Forced Convection Heat Transfer in the Combined Entry Region of Non-Circular Ducts,” *ASME J. Heat Transfer*, **126**, pp. 54–61.