CORRIGENDUM

Effects of density change and subcooling on the melting of a solid around a horizontal heated cylinder

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Equation (18d), which was used to determine the solid sensible-heat gain E4, is not correct. As it appears in the paper, E4 consists only of the sensible heating of solid PCM which still remains. It does not account for the sensible heating of solid PCM which has been melted. Consequently, a second term should be added to the equation for E4 resulting in:

$$E4 = \frac{2}{\pi} \frac{Ste\ Sb}{\lambda} \int_{0}^{\pi} \int_{0}^{1} C(\Sigma - Cr_{s}) \ T_{s} \ dr_{s} \ d\psi + \frac{Ste\ Sb\ V}{\lambda}. \tag{18d}$$

This correction is minor, however, and leaves the principal results unaffected. Only figure 4 requires a small change; the curve drawn for E4 is now slightly too low, as is shown in the corrected plot of E4 for figure 4 given below. The initial value of E4 is still about 13% of E1; but by t=14.1, the corrected value of E4 has dropped off to about 5% of E1. Using the corrected value of E4, the energy balance is now accurate to 0.5%, which is considerably better than originally stated. The authors would like to thank Mr A. Kassinos for a recent discussion which brought the error in sensible-heat gain to light.

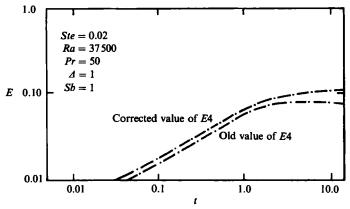


FIGURE 4. Variation of sensible- and latent-heat storage with time when subcooling effect is present.