12 The temperature of a hot liquid in a container of negligible heat capacity falls at a rate of 3 K per minute just before it begins to solidify. The temperature then remains steady for 15 minutes until it fully solidifies.

Assuming the rate of heat loss is constant for both processes, what is the value of the ratio $\frac{\text{specific heat capacity of liquid}}{\text{specific latent heat of fusion}}$?

A $\frac{1}{45}\ K^{-1}$

B $\frac{1}{5}\ K^{-1}$

C $5\ K^{-1}$

D $45\ K^{-1}$