

- 1 The rate of energy transfer H through a conducting slab is given by

$$H = kA \left| \frac{\Delta T}{l} \right|$$

where the proportionality constant k is the thermal conductivity of the material, A is the cross-sectional area of the slab, l is the length of the slab and ΔT is the temperature difference at opposite faces of the slab.

Which of the following is the unit of k in **base SI units**?

- A $\text{W m}^{-1} \text{K}^{-1}$
- B $\text{W m}^{-2} \text{K}^{-1}$
- C $\text{kg m}^5 \text{s}^{-2} \text{K}^{-1}$
- D $\text{kg m s}^{-3} \text{K}^{-1}$