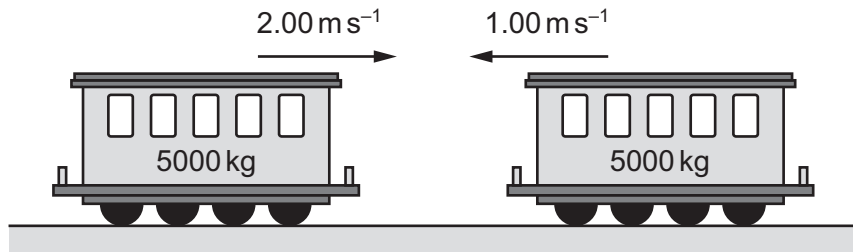10 Two train carriages each of mass 5000 kg roll toward one another on a horizontal frictionless track. One is travelling at a speed of $2.00\,\mathrm{m\,s^{-1}}$ and the other at a speed of $1.00\,\mathrm{m\,s^{-1}}$, as shown.

$2.00\,\mathrm{m\,s^{-1}}$ $1.00\,\mathrm{m\,s^{-1}}$

5000 kg   5000 kg

They collide and join together.

What is the kinetic energy lost during the collision?

A 1250 J   **B** 7500 J   **C** 11 250 J   **D** 12 500 J