Answer on Question #46369 – Physics – Mechanics | Kinematics | Dynamics

A heavy box of mass 20 kg is placed on a horizontal surface. If coefficient of friction between the box and horizontal is 0.25.calculate force of friction and acceleration?

Solution:

Friction is a force that is created whenever two surfaces move or try to move across each other (force **resisting the relative motion**). However, in our case, box is in equilibrium state, the net force is equal to zero.

If there is no force acting on the box, thus the force of friction and the acceleration will both be zero. ($\mathrm{F_{fr}} = 0, \mathrm{a} = \frac{\mathrm{F_{fr}}}{\mathrm{m}} = 0$).

Answer: $\mathrm{F_{fr}} = 0, \mathrm{a} = 0.$