

**Answer on** Question #65122, Physics / Mechanics | Relativity

A man strikes a nail into a wooden block with an average force of 200N. if he continues to strike the nail with that force estimate how much heat energy will be generated by the time the nail penetrates a depth of 0.05m.

**Find:** Q - ?

**Given:**

$$F=200 \text{ N}$$

$$s=0.05 \text{ m}$$

**Solution:**

Heat energy equals to work:

$$Q = F \times s \text{ (1),}$$

where F is force, s is displacement

$$\text{Of (1)} \Rightarrow Q=10 \text{ J}$$

**Answer:**

$$10 \text{ J}$$

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