

Conductivity is a willingness of a material to transfer the heat.

The rate of the heat conduction through a plain wall is proportional to the average conductivity, the wall area and temperature difference, but it is opposite proportional to the wall thickness. (the thicker the wall is, the less heat can come)

**Simple method:**

$$Q = kA \times \frac{\Delta T}{L}$$

$$Q = 0,78 \times \frac{25}{0,4} = 975 \text{ W}$$

**Resistance concept method:**

$$R = \frac{L}{kA} \quad R = \frac{0,4}{0,78 \times 20} = 0,0256 \text{ C/W}$$

$$Q = \frac{\Delta T}{R} = \frac{0,25}{0,0256} = 975 \text{ W}$$