

Week 1

2019年10月5日 17:41

Summary

The lesson show the basic heat transfer processes. When the heat was send inside, the wall can be a role that can enable the amount of heat to transfer through the wall.

$L=0.4\text{m}$, $A=20\text{m}^2$, $\Delta T=25\text{K}$, and $k=0.78\frac{\text{W}}{\text{mK}}$, using both simple method and using the resistance concept.

Method A: $Q = kA \frac{\Delta T}{L} = 0.78 * \frac{25}{0.4} = 975\text{W}$

Method B:

$$R = \frac{L}{kA} = 0.4 / 0.78 / 20 = \frac{1}{39}$$

$$Q = \frac{\Delta T}{R} = 25 / \frac{1}{39} = 975\text{W}$$