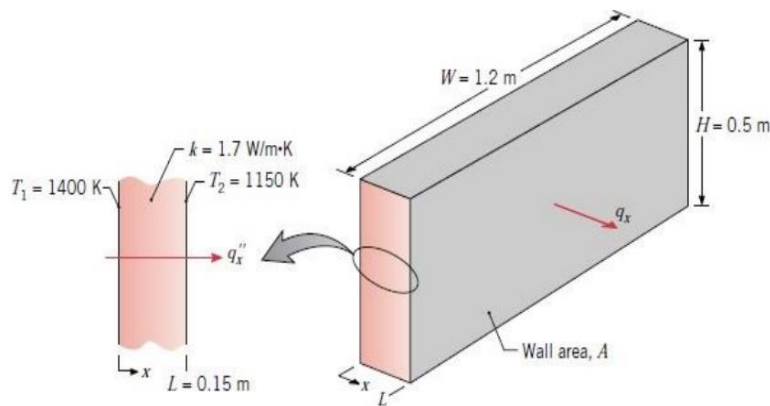


Tutorial N°01

Exercise 01

The wall of an industrial furnace is constructed from **0.15-m-thick** fireclay brick having a thermal conductivity of **1.7 W/m¹.K⁻¹**. Measurements made during steady-state operation reveal temperatures of **1400** and **1150 K** at the inner and outer surfaces, respectively. What is the rate of heat loss through a wall that is **0.5 m x1.2 m** on a side?



Exercise 02

The concrete ($k = 1.4 \text{ w/m}^{-1} \cdot \text{K}^{-1}$) slab of a basement is **11 m** long, **8m** wide and **0.2 m** thick. During the winter temperatures are normally **17 °C** and **10 °C** at the top and the bottom surfaces respectively. What is the rate of heat loss through the slab?

