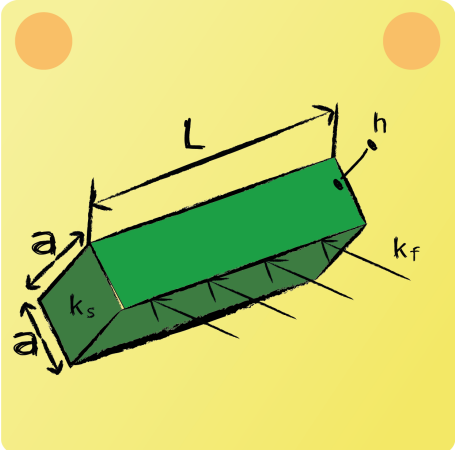
Lecture 03 - Nusselt 05

Give an expression for the Nusselt number Nu, in terms of the given variables.



Nusselt number:

$$\mathrm{Nu} = \frac{hL_\mathrm{c}}{k_\mathrm{fluid}}$$

Characteristic length for the sketched situation:

$$L_\mathrm{c} = 2 \cdot sin\,(45^\mathrm{o}) \cdot a = \frac{2}{\sqrt{2}} \cdot a = \sqrt{2} \cdot a$$

So:

$$\mathrm{Nu} = \frac{h\sqrt{2} \cdot a}{k_\mathrm{f}}$$