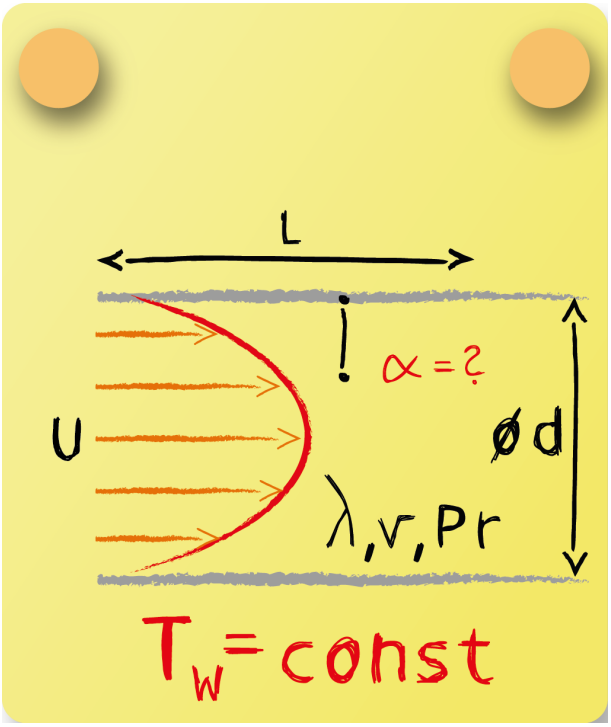
Heat Transfer Correlation: Task 13



The image describes a cylindric pipe with isothermal surface. A fluid flows with velocity u through this pipe, its hydrodynamic and thermal inlet start at x=0.

1 Thermal inlet length: $L_{th} \approx 0.05 Re_d Prd$

2 The following lengths result from the formula: L_{th} = 13.1:4.97 |13.2:0.583 |13.3:197.85 |13.4:155.87 |13.5:0.0646

3 Calculation with HTC.13: $\overline{Nu_L}$= 13.1:5.72 |13.2:5.56 |13.3:7.29 |13.4:4.878 |13.5:5.802

4 $\overline{\alpha}$= 13.1:1.5 |13.2:30 |13.3:12 |13.4:8.01 |13.5:130.22