CH402 CHEMICAL ENGINEERING PROCESS DESIGN

Lesson 7: Heat Exchanger Theory

Read: Pages 643-668

Problems: 14-2 (Problem Set 4)

Objectives (Cadets will be able to):

1. Describe the physical layout of tubular and shell-and-tube heat exchangers.
2. Calculate overall the overall heat transfer coefficient from local heat transfer resistances.
3. Calculate local heat transfer coefficients and pressure drops for fluids flowing inside and outside of pipes.
4. Determine the cost of tubular and shell-and-tube heat exchangers.

Definitions:

Double-pipe heat exchanger, shell-and-tube heat exchanger, tube sheet, fixed sheet, floating sheet, tube bundle, tube pitch

Cadet Notes: