

**ERRATA for**  
***PE Chemical Practice Exam***  
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**Revisions are shown in red.**

**Question 28, p. 28:**

Sentence 4 should read as follows:

The rate of heat transfer by conduction-convection  $Q/A$  [Btu/(ft<sup>2</sup>-hr)] can be assumed to be  $0.38 (\Delta T)^{1.25}$  where  $\Delta T$  is the temperature difference (°F) between the roof and the air.

**Solution 6, p. 73:**

MCB consumed:

All fresh feed is converted to DCB or TCB (from balance around the whole system).

Assume a basis of 1,000 lb mole/hr **MCB**.

**Solution 13, p. 78:**

The equations following paragraphs two and three should read as follows:

$$\Delta h_{\text{sensible}} = h_{L,440^{\circ}\text{F}} - h_{L,120^{\circ}\text{F}} = 419 \text{ Btu/lb} - 89 \text{ Btu/lb} = 330 \text{ Btu/lb}$$

$$\Delta h_{\text{total}} = h_{\text{vap},440^{\circ}\text{F}} - h_{L,120^{\circ}\text{F}} = 1,205 \text{ Btu/lb} - 89 \text{ Btu/lb} = 1,116 \text{ Btu/lb}$$

**Solution 20, p. 83:**

The total **concentration** of dissolved mercury is the sum of the concentrations of  $(\text{Hg}^{2+})$  and  $(\text{RSHg}^{4-})$ .

**Solution 34, p. 93:**

Line 12 should read as follows:

$$\frac{1}{h_{\text{foul}}} = \frac{1}{U_o} - \frac{\delta_{\text{brick}}}{k_{\text{brick}}} - \frac{\delta_{\text{shell}}}{k_{\text{shell}}} - \frac{1}{h_o}$$

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**Solution 61, p. 114:**

The last five lines of the solution should read as follows:

The ratio of liquid densities  $\psi$  equals 1 since the absorbing fluid is water.

$$G^2 = \frac{(0.085)(0.0909)(62.4)(32.2)}{(32)(1)(1.11)^{0.2}} = 0.475$$

$$G = 0.6893 \text{ lb}/(\text{ft}^2 \cdot \text{sec})$$

$$\text{Area} = \frac{G'}{G} = \frac{8.34}{0.6983} = 12.10 \text{ ft}^2 = \frac{\pi D^2}{4}$$

$$D = \sqrt{\frac{(12.10)(4)}{\pi}} = 3.90 \text{ ft}$$