Chapter 4
Process Costing

Exercise 4-1 (20 minutes)

a. To record issuing raw materials for use in production:

Work in Process—Molding Department	28,000	
Work in Process—Firing Department	5,000	
Raw Materials		33,000

b. To record direct labor costs incurred:

Work in Process—Molding Department	18,000	
Work in Process—Firing Department	5,000	
Wages Payable		23,000

c. To record applying manufacturing overhead:

Work in Process—Molding Department	24,000	
Work in Process—Firing Department	37,000	
Manufacturing Overhead		61,000

d. To record transfer of unfired, molded bricks from the Molding Department to the Firing Department:

Work in Process—Firing Department	67,000	
Work in Process—Molding Department		67,000

e. To record transfer of finished bricks from the Firing Department to the finished goods warehouse:

Finished Goods	108,000	
Work in Process—Firing Department		108,000

f. To record Cost of Goods Sold:

Cost of Goods Sold	106,000	
Finished Goods		106,000

Exercise 4-2 (10 minutes)

Weighted-Average Method

	Equivalent Units	
	Materials	*Conversion*
Units transferred out	410,000	410,000
Work in process, ending:		
30,000 units × 70%	21,000	
30,000 units × 50%		15,000
Equivalent units of production........................	431,000	425,000

Exercise 4-3 (10 minutes)

Weighted-Average Method

1.

	Materials	*Labor*	*Overhead*
Cost of beginning work in process inventory..................................	$ 14,550	$ 23,620	$118,100
Cost added during the period	88,350	14,330	71,650
Total cost (a)	$102,900	$37,950	$189,750
Equivalent units of production (b)..	1,200	1,100	1,100
Cost per equivalent unit (a) ÷ (b)..	$85.75	$34.50	$172.50

2.

Cost per equivalent unit for materials.....	$ 85.75
Cost per equivalent unit for labor...........	34.50
Cost per equivalent unit for overhead	172.50
Total cost per equivalent unit	$292.75

Exercise 4-4 (10 minutes)

Weighted-Average Method

	Materials	*Conversion*	*Total*
Ending work in process inventory:			
Equivalent units of production	300	100	
Cost per equivalent unit...........................	$31.56	$9.32	
Cost of ending work in process inventory ..	$9,468	$932	$10,400
Units completed and transferred out:			
Units transferred to the next department ..	1,300	1,300	
Cost per equivalent unit...........................	$31.56	$9.32	
Cost of units transferred out	$41,028	$12,116	$53,144

Problem 4-13 (45 minutes)

Weighted-Average Method

1. Equivalent Units of Production

	Materials	*Conversion*
Transferred to next department*	380,000	380,000
Ending work in process:		
Materials: 40,000 units x 75% complete	30,000	
Conversion: 40,000 units x 25% complete		10,000
Equivalent units of production	410,000	390,000

*Units transferred to the next department = Units in beginning work in process + Units started into production - Units in ending work in process = 70,000 + 350,000 - 40,000 = 380,000

2. Cost per Equivalent Unit

	Materials	*Conversion*
Cost of beginning work in process	$ 86,000	$ 36,000
Cost added during the period	447,000	198,000
Total cost (a)	$533,000	$234,000
Equivalent units of production (b).................	410,000	390,000
Cost per equivalent unit, (a) ÷ (b)................	$1.30	$0.60

3. Cost of Ending Work in Process Inventory and Units Transferred Out

	Materials	*Conversion*	*Total*
Ending work in process inventory:			
Equivalent units of production (materials: 40,000 units x 75% complete; conversion: 40,000 units x 25% complete)........	30,000	10,000	
Cost per equivalent unit........	$1.30	$0.60	
Cost of ending work in process inventory	$39,000	$6,000	$45,000
Units completed and transferred out:			
Units transferred to the next department........................	380,000	380,000	
Cost per equivalent unit........	$1.30	$0.60	
Cost of units completed and transferred out...................	$494,000	$228,000	$722,000

Problem 4-13 (continued)

4. Cost Reconciliation

Costs to be accounted for:	
Cost of beginning work in process inventory ($86,000 + $36,000)................................	$122,000
Costs added to production during the period ($447,000 + $198,000)	645,000
Total cost to be accounted for......................	$767,000
Costs accounted for as follows:	
Cost of ending work in process inventory......	$ 45,000
Cost of units completed and transferred out..	722,000
Total cost accounted for	$767,000