

Process Costing

96. Production and cost data for the month of February for Process A of the Packer manufacturing Company follow:

**Units in process, February 1**

(100% complete with respect to materials;  
25% complete with respect to conversion cost).... 2,000

New units started in process ..... 8,000

Units completed..... 7,000

**Units in process, February 28**

(100% complete with respect to materials;  
1/3 complete with respect to conversion cost)..... 3,000

**Work in process inventory, February 1:**

Materials..... \$600

Conversion..... \$100

**Costs incurred in February:**

Materials issued..... \$2,560

Conversion..... \$1,500

The company uses the weighted-average cost method in its process costing system.

Required:

- a. Calculate the equivalent units and cost per equivalent unit for February for materials and for conversion costs. (Carry calculations out to the nearest tenth of a cent.)
- b. Determine the cost transferred to finished goods.
- c. Determine the amount of cost that should be assigned to the ending work in process.

# PROCESS COSTING

Process A

Effort % Last Period			Physical Units	Effort % This Period			Equivalent Units		
DM	DL	MOH		DM	DL	MOH	DM	DL	MOH
100%	25%	2/1	2000						
			8000	100%	100%		7000	7000	
			7000						
			S+C						
			4/28 3000	100%	1/3		3000	1000	
							10,000	8,000	
							EU <sub>DM</sub>	EU <sub>conv.</sub>	

DM	DL	MOH	WIP Costs \$
\$600	\$100	2/1 \$700	
2560	1500	4060	
			\$3612
\$3160	\$1600	4760	

$$\$948 + 200 = 4/28 \ 1148$$

$$\begin{matrix} \uparrow & \uparrow \\ (\$0.316 \times 3000) & (\$0.20 \times 1000) \end{matrix}$$

$$\begin{matrix} \$3160 \\ \hline 10,000 \text{ EU}_{DM} \end{matrix} \quad \begin{matrix} \$1600 \\ \hline 8000 \text{ EU}_{conv.} \end{matrix}$$

$$\begin{matrix} 11 \\ \$0.316 \text{ per EU}_{DM} \end{matrix} \quad \begin{matrix} 11 \\ \$0.20 \text{ per EU}_{conv.} \end{matrix}$$

$$7000 \text{ S+C} \times \$0.516 \text{ per EU}$$

a.		Materials	Conversion
	Units transferred to the next department .....	7,000	7,000
	Ending work in process:		
	Materials: 3,000 units × 100%.....	3,000	
	Conversion: 3,000 units × 1/3 .....		1,000
	Equivalent units of production .....	<u>10,000</u>	<u>8,000</u>

b.		Materials	Conversion
	Cost of beginning work in process inventory .....	\$ 600	\$ 100
	Costs added during the period .....	<u>2,560</u>	<u>1,500</u>
	Total cost (a).....	<u>\$3,160</u>	<u>\$1,600</u>
	Equivalent units of production (b) .....	10,000	8,000
	Cost per equivalent unit (a) ÷ (b).....	\$0.316	\$0.200

		Materials	Conversion	Total
	Units completed and transferred out:			
	Units transferred to the next department (a).....	7,000	7,000	
	Cost per equivalent unit (b) .....	\$0.316	\$0.200	
	Cost of units completed and transferred out (a) × (b).....	\$2,212	\$1,400	<u>\$3,612</u>

c.		Materials	Conversion	Total
	Ending work in process inventory:			
	Equivalent units of production (a).....	3,000	1,000	
	Cost per equivalent unit (b) .....	\$0.316	\$0.200	
	Cost of ending work in process inventory (a) × (b).....	\$948	\$200	<u>\$1,148</u>

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Bloom's: Application

Learning Objective: 04-02 Compute the equivalent units of production using the weighted-average method

Learning Objective: 04-03 Compute the cost per equivalent unit using the weighted-average method

Learning Objective: 04-04 Assign costs to units using the weighted-average method

Level: Hard

97. Assurer Inc. uses the weighted-average method in its process costing system. The following data concern the operations of the company's first processing department for a recent month.

<b>Work in process, beginning:</b>	
Units in process .....	300
Percent complete with respect to materials.....	80%
Percent complete with respect to conversion....	70%
<b>Costs in the beginning inventory:</b>	
Materials cost .....	\$1,368
Conversion cost .....	\$8,064
 Units started into production during the month..	 11,000
Units completed and transferred out .....	11,000
 <b>Costs added to production during the month:</b>	
Materials cost .....	\$64,948
Conversion cost .....	\$412,179
 <b>Work in process, ending:</b>	
Units in process .....	300
Percent complete with respect to materials.....	80%
Percent complete with respect to conversion....	10%

Required:

- Determine the equivalent units of production.
- Determine the costs per equivalent unit.
- Determine the cost of ending work in process inventory.
- Determine the cost of the units transferred to the next department.

# PROCESS COSTING

Effort % Last Period			Physical Units	Effort % This Period			Equivalent Units		
DM	DL	MOH		DM	DL	MOH	DM	DL	MOH
80%	70%		300						
			11,000	100%	100%		11,000	11,000	
			300	80%	10%		240	30	
							11,240	11,030	
							EU <sub>DM</sub>	EU <sub>conv.</sub>	

DM	DL	MOH	WIP Costs \$
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$$\$1,368 + \$8,064 = \$9,432$$

$$\$64,948 + \$412,179 = \$477,127$$

$$\$66,316 + 420,243 = \$486,559$$

$$\$1,416 + \$1,143 = \$2,559$$

$$(\$5.90 \times 240 \text{ EU}_{DM}) + (\$38.10 \times 30 \text{ EU}_{conv.})$$

\$484,000

$$\begin{aligned} & \$66,316 / 11,240 = \$5.90 / \text{EU}_{DM} \\ & \$420,243 / 11,030 = \$38.10 / \text{EU}_{conv.} \end{aligned}$$

11,000 x  
S+C

\$44.00  
per EU

Weighted-average method:

Weighted-average method:

a.	Materials	Conversion	
Units transferred to next department....	11,000	11,000	
Ending work in process:			
Materials: 300 units × 80%.....	240		
Conversion: 300 units × 10% .....		30	
Equivalent units of production.....	<u>11,240</u>	<u>11,030</u>	
b.	Materials	Conversion	
Cost of beginning work in process .....	\$1,368	\$8,064	
Cost added during the month.....	<u>64,948</u>	<u>412,179</u>	
Total cost.....	<u>\$66,316</u>	<u>\$420,243</u>	
Equivalent units .....	11,240	11,030	
Cost per equivalent unit .....	\$5.90	\$38.10	
c.	Materials	Conversion	Total
Ending work in process:			
Equivalent units of production.....	240	30	
Cost per equivalent unit.....	\$5.90	\$38.10	
Cost of ending work in process inventory.....	\$1,416	\$1,143	<u>\$2,559</u>
d.	Materials	Conversion	Total
Units completed and transferred out ....	11,000	11,000	
Cost per equivalent unit .....	\$5.90	\$38.10	
Cost of units transferred out.....	\$64,900	\$419,100	<u>\$484,000</u>

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Bloom's: Application

Learning Objective: 04-02 Compute the equivalent units of production using the weighted-average method

Learning Objective: 04-03 Compute the cost per equivalent unit using the weighted-average method

Learning Objective: 04-04 Assign costs to units using the weighted-average method

Level: Medium

109. In November, one of the processing departments at Shelp Corporation had beginning work in process inventory of \$27,000 and ending work in process inventory of \$21,000. During the month, the cost of units transferred out from the department was \$311,000.

Required:

Construct a cost reconciliation report for the department for the month of November.

**Costs to be accounted for:**

Cost of beginning work in process inventory ...	\$ 27,000
Costs added to production during the month*	<u>305,000</u>
Total cost to be accounted for .....	<u>\$332,000</u>

**Costs accounted for as follows:**

Cost of ending work in process inventory .....	\$ 21,000
Cost of units transferred out .....	<u>311,000</u>
Total cost accounted for .....	<u>\$332,000</u>

\* Plug figure

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Bloom's: Application

Learning Objective: 04-05 Prepare a cost reconciliation report

Level: Medium

# PROCESS COSTING

Effort % Last Period			Physical Units	Effort % This Period			Equivalent Units		
DM	DL	MOH		DM	DL	MOH	DM	DL	MOH

DM	DL	MOH	WIP Costs \$
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		\$ 27,000	
		\$ 305,000	311,000
		<u>\$ 332,000</u>	
		\$ 21,000	