

Problem 10-22 (30 minutes)

1. Salex quantity standard:

Required per 10-liter batch ($9.6 \text{ liters} \div 0.8$).....	12.0 liters
Loss from rejected batches ($1/5 \times 12 \text{ liters}$)	<u>2.4</u> liters
Total quantity per good batch	<u>14.4</u> liters

Nyclyn quantity standard:

Required per 10-liter batch ($12 \text{ kilograms} \div 0.8$) ...	15.0 kilograms
Loss from rejected batches ($1/5 \times 15 \text{ kilograms}$)...	<u>3.0</u> kilograms
Total quantity per good batch	<u>18.0</u> kilograms

Protet quantity standard:

Required per 10-liter batch.....	5.0 kilograms
Loss from rejected batches ($1/5 \times 5 \text{ kilograms}$)	<u>1.0</u> kilograms
Total quantity per good batch	<u>6.0</u> kilograms

2. Total minutes per 8-hour day 480 minutes
Less rest breaks and cleanup 60 minutes
Productive time each day..... 420 minutes

$$\frac{\text{Productive time each day}}{\text{Time required per batch}} = \frac{420 \text{ minutes per day}}{35 \text{ minutes per batch}} = 12 \text{ batches per day}$$

Time required per batch	35 minutes
Rest breaks and clean up time ($60 \text{ minutes} \div 12 \text{ batches}$).....	<u>5</u> minutes
Total.....	40 minutes
Loss from rejected batches ($1/5 \times 40 \text{ minutes}$)	<u>8</u> minutes
Total time per good batch.....	<u>48</u> minutes

Problem 10-22 (continued)

3. Standard cost card:

	<i>Standard Quantity or Time</i>	<i>Standard Price or Rate</i>	<i>Standard Cost</i>
Salex	14.4 liters	\$1.50 per liter	\$21.60
Nyclyn	18.0 kilograms	\$2.80 per kilogram	50.40
Protet	6.0 kilograms	\$3.00 per kilogram	18.00
Labor time	48 minutes, or 0.8 hour	\$9.00 per hour	<u>7.20</u>
Total standard cost per acceptable batch			<u>\$97.20</u>