



Management of Production

Exercise 3 - production capacity

CALCULATION ASSIGNMENTS

1. Calculation of the capacity of the yogurt filling line

- The technical parameters of the line allow you to fill 50 quarter liter yogurts per minute
- Production technology requires after one batch (filling container volume 1250 L) to discontinue operation for 15 minutes (cleaning and replacement of contents)
- The rest period for the necessary manual activities is 0.5 min. per handling dose
- Cardboard (handling dose) contains 100 yogurts
- Production is two-shift (after 8 h), does not allow to work on Saturdays or Sundays
- Line maintenance is preventive and regular (always 15 minutes before the start of the first shift – i.e. out of working hours) and 2 hours (within working hours) always once a month

Determine the production capacity of the line for the month of November (4 weekends and 1 holiday)

2. Example for practicing 1. - Calculation of the capacity of the beer filling line

- The technical parameters of the line allow you to fill 900 half liter beer bottles per hour
- Production technology requires after one batch (filling container volume 1500 liters) to discontinue operation for 30 minutes (cleaning and replacement of contents)
- The rest period for the necessary manual activities is 0.6 min. per handling dose
- Cardboard (handling dose) contains 48 beers
- Production is two-shift, not working on Saturdays or Sundays
- Line maintenance is preventive and regular (always 15 minutes before the start of the first shift – i.e. outside working hours) and 1.5 hours (within working hours) every month

Determine the production capacity of the line for the month of April (4 weekends and 2 holidays)

3. Example for practicing 2.

The company produces 4,000 parts per hour. In a year there are 114 weekend and holiday days. Other losses of time (individual holidays, illnesses and others) are 35 days. The company works 2 shifts (each of 8 hours).

- (a) Calculate the total annual production capacity.
- (b) Calculate the capacity utilization in the enterprise (in %) if the enterprise has actually produced 12 985 000 pieces.

4. Example for exercise 3.

The company produces 3,500 parts per hour. In a year there are 113 weekend and holiday days. Other losses of time (individual holidays, illnesses and others) are 40 days. The company works 2 shifts (each of 8 hours).

- (a) Calculate the total annual production capacity.
- (b) Calculate the capacity utilization in the enterprise (v%) if the enterprise has actually produced 10 782 000 pieces.