

Task IM-9.50: Exercise on Job Order Costing**()**

MARNE Ltd. is a production firm for coffee capsules. The company has equity of 650,000.00 EUR, assume the amount is issued capital. The amount on cash/bank is 42,500.00 EUR. The value of Property, Plant, Equipment is 50,000.00 EUR at the beginning of 20X3. The production process contains 3 steps. By the first one, MARNE Ltd. fills plastic containers with coffee. Every container carries 10 g of coffee powder. Thereafter, the containers are closed and sealed (abgedichtet) by an aluminium foil (Alufolie). The last production step is the Quality Control of the completed (filled and sealed) capsules. (*Note, we call the plastic containers only capsula once the production process is finished, otherwise container.*)

At the beginning of the Accounting period, MARNE Ltd. has 4,000,000 containers on stock. Every container is valued by 0.05 EUR/u. MARNE Ltd. has 35 t coffee on stock. The coffee is bought at 4.50 EUR/kg. MARNE Ltd. has 20,000,000 aluminum foils on stock, each thereof is bought at 0.01 EUR/u. The monthly production capacity is 1,000,000 capsules. MARNE Ltd. values consumption of materials with regard to containers along the first-in-first-out formula and with regard to coffee along the weighted average method. You have to calculate the average costs for every (monthly) release of coffee from stock. MARNE Ltd. buys the following amounts of coffee and containers in 20X3:

- January: 30 t coffee at 4.60 EUR/kg and 3,000,000 containers at 0.06 EUR/u.
- April: 30 t coffee at 4.70 EUR/kg and 3,000,000 containers at 0.06 EUR/u.
- July: 30 t coffee at 4.70 EUR/kg and 3,000,000 containers at 0.07 EUR/u.
- October: 30 t coffee at 4.75 EUR/kg and 4,000,000 containers at 0.06 EUR/u.

Consider the deliveries from the suppliers to be in time for quarterly production. Hence, the January deliveries (Lieferungen) are available before the 1st batch starts, etc. During 20X3, MARNE Ltd. runs 4 job orders for 3,000,000 capsules each which starts in January, April, July and October. The lot size of the job orders is 3,000,000 capsules. No waste nor rework occurs. (Kein Abfall oder Nacharbeit)

The company sells the capsules to a discounter at 4.00 EUR/10 capsules. The discounter orders 300,000 units which contain 10 capsules each to be delivered on 31.03.20X3; 30.06.20X3; 30.09.20X3 and 31.12.20X3. The customer pays for the first 3 orders per bank transfer and for the last one on credit. Labour costs 60,000.00 EUR/a for the supervisor of the production facility for filling containers. The capsula sealing (Verschließen) and the quality control is an automated process. In both departments the monthly depreciation on the automated machinery is 1,000.00 EUR/month each. Rent for the factory costs 3,500.00 EUR/month. There is no labour in the Sealing and Quality department.

For administration and marketing, MARNE Ltd. pays 2,000,000.00 EUR/a together.

Except of the last revenue recognition all transactions are cash/bank transactions.

Required: Prepare an adjusted trial balance as at 31.12.20X3 for MARNE Ltd. Keep separated accounts for containers, coffee, aluminum foil and finished goods. The application of overheads is based on the lot size. Apply a cost of sales format for the profit calculation which is combined with a perpetual inventory movement system. Ignore VAT.

Solution:

Observe the accounts!

| D | | Cash/Bank | C |
|------|---------------------|-----------|---------------------|
| OV | 42,500.00 | (1) | 138,000.00 |
| (14) | 1,200,000.00 | (3) | 180,000.00 |
| (34) | 1,200,000.00 | (5) | 60,000.00 |
| (35) | 1,200,000.00 | (10) | 42,000.00 |
| (44) | 1,200,000.00 | (15) | 2,000,000.00 |
| | | (16) | 141,000.00 |
| | | (18) | 180,000.00 |
| | | (25) | 141,000.00 |
| | | (27) | 210,000.00 |
| | | (35) | 142,500.00 |
| | | (37) | 240,000.00 |
| | | c/d | 1,368,000.00 |
| | <u>4,842,500.00</u> | | <u>4,842,500.00</u> |
| b/d | 1,368,000.00 | | |

| D | | Issued capital | C |
|-----|-------------------|----------------|-------------------|
| c/d | <u>650,000.00</u> | OV | <u>650,000.00</u> |
| | | b/d | 650,000.00 |

| D | | Inventory containers | C |
|------|---------------------|----------------------|---------------------|
| OV | 200,000.00 | (4) | 150,000.00 |
| (3) | 180,000.00 | (19) | 170,000.00 |
| (18) | 180,000.00 | (28) | 180,000.00 |
| (27) | 210,000.00 | (38) | 200,000.00 |
| (37) | 240,000.00 | c/d | 310,000.00 |
| | <u>1,010,000.00</u> | | <u>1,010,000.00</u> |
| b/d | 310,000.00 | | |
| chck | 310,000.00 | | |

| D | | Inventory coffee | C |
|------|-------------------|------------------|-------------------|
| OV | 157,500.00 | (2) | 136,384.62 |
| (1) | <u>138,000.00</u> | c/d | <u>159,115.38</u> |
| | 295,500.00 | | <u>295,500.00</u> |
| c/d | <u>159,115.38</u> | (17) | 138,514.79 |
| (16) | <u>141,000.00</u> | c/d | <u>161,600.59</u> |
| | 300,115.38 | | <u>300,115.38</u> |
| b/d | <u>161,600.59</u> | (26) | 139,661.81 |
| (25) | <u>141,000.00</u> | c/d | <u>162,938.78</u> |
| | 302,600.59 | | <u>302,600.59</u> |
| b/d | <u>162,938.78</u> | (36) | 140,971.74 |
| (35) | <u>142,500.00</u> | c/d | <u>164,467.04</u> |
| | 305,438.78 | | <u>305,438.78</u> |
| b/d | <u>164,467.04</u> | | |
| chck | 4.70 | | |

| D | | Inventory lits | C |
|-----|-------------------|----------------|-------------------|
| OV | 200,000.00 | (9) | 30,000.00 |
| | | (20) | 30,000.00 |
| | | (31) | 30,000.00 |
| | | (41) | 30,000.00 |
| | | c/d | 80,000.00 |
| | <u>200,000.00</u> | | <u>200,000.00</u> |
| b/d | 80,000.00 | | |

| D | | FG inventory | C |
|------|-------------------|--------------|-------------------|
| (12) | <u>347,884.62</u> | (13) | <u>347,884.62</u> |

Exhibit 1: Accounts

(Note, the FG Inventory account got skipped for the 2nd, 3rd and 4th batch. The bookkeeping entry was DR Cost of Sales – CR Batch.)

| D | Batch I | | C |
|--------|-------------------|------|-------------------|
| k (2) | 136,384.62 | (12) | 347,884.62 |
| c (4) | 150,000.00 | | |
| L (6) | 15,000.00 | | |
| D (8) | 6,000.00 | | |
| I (9) | 30,000.00 | | |
| R (11) | 10,500.00 | | |
| | <u>347,884.62</u> | | <u>347,884.62</u> |

| D | Batch II | | C |
|--------|-------------------|------|-------------------|
| k (17) | 138,514.79 | (24) | 370,014.79 |
| c (19) | 170,000.00 | | |
| L (22) | 15,000.00 | | |
| D (21) | 6,000.00 | | |
| I (20) | 30,000.00 | | |
| R (23) | 10,500.00 | | |
| | <u>370,014.79</u> | | <u>370,014.79</u> |

| D | Batch III | | C |
|--------|-------------------|------|-------------------|
| k (26) | 139,661.81 | (33) | 381,161.81 |
| c (28) | 180,000.00 | | |
| L (29) | 15,000.00 | | |
| D (30) | 6,000.00 | | |
| I (31) | 30,000.00 | | |
| R (32) | 10,500.00 | | |
| | <u>381,161.81</u> | | <u>381,161.81</u> |

| D | Batch IV | | C |
|--------|-------------------|------|-------------------|
| k (36) | 140,971.74 | (43) | 402,471.74 |
| c (38) | 200,000.00 | | |
| L (39) | 15,000.00 | | |
| D (40) | 6,000.00 | | |
| I (41) | 30,000.00 | | |
| R (42) | 10,500.00 | | |
| | <u>402,471.74</u> | | <u>402,471.74</u> |

| D | Labour | | C |
|-----|------------------|------|------------------|
| (5) | 60,000.00 | (6) | 15,000.00 |
| | | (22) | 15,000.00 |
| | | (29) | 15,000.00 |
| | | (39) | 15,000.00 |
| | <u>60,000.00</u> | | <u>60,000.00</u> |

| D | Depreciation | | C |
|-----|------------------|------|------------------|
| (7) | 24,000.00 | (8) | 6,000.00 |
| | | (21) | 6,000.00 |
| | | (30) | 6,000.00 |
| | | (40) | 6,000.00 |
| | <u>24,000.00</u> | | <u>24,000.00</u> |

| D | Acc depreciation | | C |
|-----|------------------|-----|-----------|
| c/d | 24,000.00 | (7) | 24,000.00 |
| | | b/d | 24,000.00 |

| D | Property, Plant, Equipment | | C |
|-----|----------------------------|-----|-----------|
| OV | 50,000.00 | c/d | 50,000.00 |
| b/d | 50,000.00 | | |

| D | Rent | | C |
|------|------------------|------|------------------|
| (10) | 42,000.00 | (11) | 10,500.00 |
| | | (23) | 10,500.00 |
| | | (32) | 10,500.00 |
| | | (42) | 10,500.00 |
| | <u>42,000.00</u> | | <u>42,000.00</u> |

| D | Cost of Sales | | C |
|------|---------------------|-----|---------------------|
| (13) | 347,884.62 | P&L | 1,501,532.96 |
| (24) | 370,014.79 | | |
| (33) | 381,161.81 | | |
| (43) | 402,471.74 | | |
| | <u>1,501,532.96</u> | | <u>1,501,532.96</u> |

Chck 0.1160

| D | Revenue | | C |
|-----|---------------------|------|---------------------|
| P&L | 4,800,000.00 | (14) | 1,200,000.00 |
| | | (34) | 1,200,000.00 |
| | | (35) | 1,200,000.00 |
| | | (44) | 1,200,000.00 |
| | <u>4,800,000.00</u> | | <u>4,800,000.00</u> |

| D | Admin + Marketing | | C |
|------|-------------------|-----|--------------|
| (15) | 2,000,000.00 | P&L | 2,000,000.00 |

| Profit and Loss | | | | Income tax liabilities | | | |
|-----------------|---------------------|-----|---------------------|------------------------|------------|-----|------------|
| D | | | C | D | | | C |
| COS | 1,501,532.96 | REV | 4,800,000.00 | c/d | 389,540.11 | P&L | 389,540.11 |
| A+M | 2,000,000.00 | | | | | b/d | 389,540.11 |
| EBT | 1,298,467.04 | | | | | | |
| | <u>4,800,000.00</u> | | <u>4,800,000.00</u> | | | | |
| ITL | 389,540.11 | b/d | 1,298,467.04 | | | | |
| R/E | 908,926.93 | | | | | | |
| | <u>1,298,467.04</u> | | <u>1,298,467.04</u> | | | | |

| Retained earnings R/E | | | | name | | | |
|-----------------------|------------|-----|------------|------|--|--|---|
| D | | | C | D | | | C |
| c/d | 908,926.93 | P&L | 908,926.93 | | | | |
| | | b/d | 908,926.93 | | | | |

Exhibit 1: Accounts (continued)

**Marne Ltd.'s
adjusted TRIAL BALANCE
as at 31.12.20X3**

| Account | Debit entries | Credit entries |
|------------------------|---------------------|---------------------|
| Cash/Bank | 1,368,000.00 | |
| Issued capital | | 650,000.00 |
| Inv. Containers | 310,000.00 | |
| Inv. (k) coffee | 164,467.04 | |
| Inv. Lits | 80,000.00 | |
| Acc depreciation | | 24,000.00 |
| P, P, E | 50,000.00 | |
| Income tax liabilities | | 389,540.11 |
| Retained earnings | | 908,926.93 |
| Total: | <u>1,972,467.04</u> | <u>1,972,467.04</u> |

Exhibit 2: Adjusted trial balance