

## 24# Marcowe

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **21**
- SRM **6.2**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

### Steps

- Temp **64 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.6 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **73C**
- Keep mash **10 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

| Type  | Name                     | Amount         | Yield | EBC |
|-------|--------------------------|----------------|-------|-----|
| Grain | Pilzneński               | 2.3 kg (44.2%) | 81 %  | 4   |
| Grain | Monachijski              | 2.3 kg (44.2%) | 80 %  | 16  |
| Grain | Karmelowy Jasny<br>30EBC | 0.2 kg (3.8%)  | 75 %  | 30  |
| Grain | płatki                   | 0.4 kg (7.7%)  | --- % | --- |

### Hops

| Use for | Name      | Amount | Time   | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil    | Perle     | 20 g   | 60 min | 7 %        |
| Boil    | Tradition | 50 g   | 5 min  | 5.5 %      |

### Yeasts

| Name    | Type  | Form | Amount | Laboratory |
|---------|-------|------|--------|------------|
| w-34/70 | Lager | Dry  | 11 g   | ---        |