

## 24# Marcowe

---

- 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 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	---