

## #15 Marcowe

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **29**
- SRM **7.2**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **28.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.7 liter(s)**
- Total mash volume **19.6 liter(s)**

### Steps

- Temp **50 C**, Time **30 min**
- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14.7 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **73C**
- Keep mash **1 min** at **78C**
- Sparge using **18.3 liter(s)** of **76C** water or to achieve **28.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	2 kg (40.8%)	79 %	10
Grain	Monachijski	2.5 kg (51%)	80 %	16
Grain	Karmelowy Jasny 30EBC	0.2 kg (4.1%)	75 %	30
Grain	Płatki pszeniczne	0.2 kg (4.1%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	35 g	60 min	7 %
Boil	Hersbrucker	15 g	10 min	3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	30 ml	Fermentum Mobile