

## Marcowe02

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- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **31**
- SRM **4.2**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **21.1 liter(s)**
- Total mash volume **27.5 liter(s)**

### Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **2 min**

### Mash step by step

- Heat up **21.1 liter(s)** of strike water to **68.4C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński/ Pale ale	5 kg (78.1%)	80 %	4
Grain	Płatki owsiane	0.4 kg (6.3%)	85 %	3
Grain	Viking Wędzony torfem	1 kg (15.6%)	81 %	7

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	cascade (szyszka)	60 g	60 min	4.8 %
Boil	cascade (szyszka)	40 g	10 min	4.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Dry	11.5 g	safale