

## Marcowe 13

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **27**
- SRM **6.8**
- 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 **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 **15.8 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **55 C**, Time **10 min**
- Temp **64 C**, Time **20 min**
- Temp **72 C**, Time **40 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **20 min** at **64C**
- Keep mash **40 min** at **72C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Malting - Pilsneński 6-rzędowy	3.4 kg (64.8%)	80 %	5
Grain	Strzegom Monachijski typ I	1.4 kg (26.7%)	79 %	16
Grain	Caramunich® typ I	0.2 kg (3.8%)	73 %	80
Grain	Carahell	0.15 kg (2.9%)	77 %	26
Grain	zakwaszający	0.1 kg (1.9%)	--- %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	11 %
Boil	Tradition	10 g	20 min	5.5 %
Boil	Tradition	15 g	5 min	5.5 %
Whirlpool	Tradition	15 g	30 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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Wyeast - Bavarian Lager	Lager	Liquid	100 ml	Wyeast Labs
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### Extras

Type	Name	Amount	Use for	Time
Fining	whirflock	5 g	Boil	15 min