

## #120 Marcowe

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **18**
- SRM **7.2**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **6 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **22.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.19 liter(s) / kg**
- Mash size **14.5 liter(s)**
- Total mash volume **19.1 liter(s)**

### Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **75.6 C**, Time **1 min**

### Mash step by step

- Heat up **14.5 liter(s)** of strike water to **68.6C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **1 min** at **75.6C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **22.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski jasny	2.45 kg (53.8%)	80 %	15
Grain	Pilzneński	1.2 kg (26.4%)	81 %	4
Grain	Karmelowy jasny	0.5 kg (11%)	75 %	30
Grain	Wiedeński	0.4 kg (8.8%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tradition PL 2020 granulát	25 g	60 min	5.5 %
Aroma (end of boil)	Tradition PL 2020 granulát	10 g	10 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM42 Stare Nadreńskie	Ale	Liquid	30 ml	Fermentum Mobile