

Marcowe

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **24**
- SRM **14.8**
- 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 **19.8 liter(s)**
- Total mash volume **25.8 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 **19.8 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 **15.2 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	5 kg (83.3%)	80 %	16
Grain	Strzegom Karmel 150	1 kg (16.7%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	cascade (szyszka)	50 g	60 min	4.8 %
Boil	Cascade PL	10 g	10 min	5.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	---