

# Marcowe

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- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **23**
- SRM **7.5**
- Style **Oktoberfest/Märzen**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

## Steps

- Temp **68 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **64 C**, Time **30 min**

## Mash step by step

- Heat up **10.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **15 min** at **68C**
- Keep mash **45 min** at **72C**
- Sparge using **8.2 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	2 kg (57.1%)	82 %	4
Grain	Viking Munich Malt	1 kg (28.6%)	78 %	18
Grain	Strzegom Karmel 30	0.5 kg (14.3%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	20 g	60 min	4 %
Aroma (end of boil)	Marynka	15 g	10 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	11.5 g	Fermentis Division of S.I.Lesaffre