

# Oktoberfest/Marcowe

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **17**
- SRM **8**
- Style **Oktoberfest/Märzen**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **2 %**
- Size with trub loss **19.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **2 %/h**
- Boil size **22.9 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

## Steps

- Temp **62 C**, Time **1 min**
- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **15.8 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **1 min** at **62C**
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **75C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **22.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pilsner Malt	2.5 kg (47.6%)	81 %	5
Grain	Weyermann - Monachijski typ II 20-25 EBC	2.5 kg (47.6%)	80 %	20
Grain	Castle Malting - Biscuit Malt	0.25 kg (4.8%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	50 g	30 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M76 Bavarian Lager	Lager	Dry	11 g	Mangrove Jack's

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Chlorek wapnia	11.4 g	Mash	66 min

wartość wyliczona dla 5g				
Other	Pożywka dla drożdży	2.5 g	Boil	15 min
Fining	whirlflock	1.25 g	Boil	15 min

## Notes

- Koszty 50 zł słody + 30 zł drożdże = 80 zł

Woda kranowa 50/50 z demineralizowaną + chlorek wapnia. Taka modyfikacja daje 3:1 chlorków nad siarczkami

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