

# Marcowe

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **26**
- SRM **9.5**
- 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 **75 min**
- Evaporation rate **18 %/h**
- Boil size **26.9 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **19.2 liter(s)**
- Total mash volume **24.4 liter(s)**

## Steps

- Temp **55 C**, Time **15 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **19.2 liter(s)** of strike water to **59.7C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **26.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Malt Słod Monachijski Ciemny TYP II	3 kg (57.7%)	78 %	22
Grain	Viking Malt Słod Wiedeński	2 kg (38.5%)	79 %	10
Grain	Viking Malt Słod Cookie	0.2 kg (3.8%)	72 %	50

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	11.5 %
Aroma (end of boil)	Hellertau Hersbrucker	5 g	10 min	4.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	1100 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Kwas fosforowy 75%	5 g	Mash	75 min
Water Agent	Chlorek wapnia 33% E509	10 g	Mash	75 min
Fining	Mech Irlandzki	5 g	Boil	10 min

## Notes

- woda kranowa przelana przez filtr DAFI  
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