

# Marcowe Karminowe

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **26**
- SRM **4.8**
- 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 **15 %/h**
- Boil size **30.4 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **14.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.8 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (62.5%)	81 %	4
Grain	Monachijski	1 kg (20.8%)	80 %	16
Grain	Pszeniczny	0.5 kg (10.4%)	85 %	4
Grain	Strzegom Karmel 30	0.3 kg (6.3%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	18.4 g	60 min	12.7 %
Boil	Lublin (Lubelski)	18.4 g	15 min	3.5 %
Boil	Lublin (Lubelski)	27.6 g	0 min	3.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast XL 2308 Munich Lager	Lager	Liquid	1200 ml	Starter