

## marcowe

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **32**
- SRM **4.9**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **33 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

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

### Mash step by step

- Heat up **21 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **30 min** at **64C**
- Keep mash **5 min** at **78C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **33 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	słód pilzneński	4 kg (66.7%)	--- %	4
Grain	słód monachijski	2 kg (33.3%)	--- %	15

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	35 g	70 min	10 %
Boil	Lublin (Lubelski)	5 g	10 min	4 %