

## pils

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **32**
- SRM **4.5**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **2 %**
- Size with trub loss **13.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **15.9 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **13.5 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **10.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	1.8 kg (60%)	80.5 %	2
Grain	Monachijski	0.8 kg (26.7%)	80 %	16
Grain	Cara-Pils/Dextrine	0.07 kg (2.3%)	72 %	4
Grain	Pszeniczny	0.33 kg (11%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	19.5 g	60 min	6 %
Boil	Lublin (Lubelski)	26 g	30 min	3 %
Aroma (end of boil)	Lublin (Lubelski)	26 g	1 min	3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	7.48 g	Fermentis

### Extras

Type	Name	Amount	Use for	Time
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Fining	mech irlandzki	6.5 g	Mash	10 min
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