

## Pils

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **39**
- SRM **3.8**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **3 %**
- Size with trub loss **25.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **5 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.2 liter(s)**

### Steps

- Temp **50 C**, Time **30 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**

### Mash step by step

- Heat up **15.1 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Sparge using **18.9 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.5 kg (89.3%)	81 %	4
Grain	Strzegom Karmel 30	0.08 kg (1.6%)	75 %	50
Grain	Strzegom Wiedeński	0.46 kg (9.1%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	50 g	60 min	6 %
Boil	Lublin (Lubelski)	20 g	15 min	6 %
Aroma (end of boil)	Lublin (Lubelski)	30 g	5 min	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
ge	Lager	Slant	13.75 ml	---