

## Pils

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **28**
- SRM **3.6**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.9 liter(s)**
- Total mash volume **18.6 liter(s)**

### Steps

- Temp **63 C**, Time **60 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **13.9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **60 min** at **63C**
- Keep mash **0 min** at **78C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzniejszy	4.5 kg (97%)	80 %	4
Grain	Strzegom Wiedeński	0.14 kg (3%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	13 g	60 min	9.5 %
Boil	Marynka	13 g	30 min	9.5 %
Aroma (end of boil)	Lublin (Lubelski)	20 g	0 min	4.5 %
Whirlpool	Lublin (Lubelski)	25 g	15 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-189	Lager	Dry	11.5 g	Fermentis