

## Pils

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **38**
- SRM **3.7**
- 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 **120 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

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

### Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.5 kg (90%)	81 %	4
Grain	Weyermann - Carapils	0.5 kg (10%)	78 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	50 g	90 min	4.5 %
Aroma (end of boil)	Saaz (Czech Republic)	30 g	20 min	4.5 %
Aroma (end of boil)	Saaz (Czech Republic)	20 g	5 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	11.5 g	Fermentis Division of S.I.Lesaffre