

## pils

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **33**
- SRM **3.8**
- Style **Bohemian Pilsener**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **68 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **54 C**, Time **10 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **21.6 liter(s)** of strike water to **58.3C**
- Add grains
- Keep mash **10 min** at **54C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **10 min** at **76C**
- Sparge using **11.4 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5.2 kg (96.3%)	81 %	4
Grain	carapils	0.2 kg (3.7%)	75 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	20 g	60 min	6.2 %
Boil	Perle	20 g	30 min	6.2 %
Boil	Perle	20 g	15 min	6.2 %
Aroma (end of boil)	Perle	20 g	5 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Slant	300 ml	Fermentum Mobile
Omega German Pils	Lager	Slant	300 ml	Omega Yeast

### Extras

Type	Name	Amount	Use for	Time
Fining	wirflock	1 g	Boil	5 min