

## Pils

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **35**
- SRM **6.4**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.3 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **11.6 liter(s)**
- Total mash volume **14.5 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **11.6 liter(s)** of strike water to **67.3C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **5.6 liter(s)** of **76C** water or to achieve **14.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.3 kg (79.3%)	81 %	4
Grain	Weyermann - Carapils	0.45 kg (15.5%)	78 %	4
Grain	Biscuit Malt	0.1 kg (3.4%)	79 %	45
Grain	Caraaroma	0.05 kg (1.7%)	78 %	300

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	60 min	13.5 %
Aroma (end of boil)	Tettnang	15 g	5 min	4 %
Aroma (end of boil)	Saaz (Czech Republic)	10 g	5 min	4.5 %
Aroma (end of boil)	lunga	10 g	5 min	11 %
Dry Hop	lunga	10 g	3 day(s)	11 %

wrzuciłem w dzień ustawienia na termostacie CC

### Yeasts

Name	Type	Form	Amount	Laboratory
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W34/70	Lager	Dry	10 g	Gozdawa
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### Extras

Type	Name	Amount	Use for	Time
Water Agent	wit c	2 g	Bottling	---