

Pils

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **34**
- SRM **4.9**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **39.1 liter(s)**

Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **20 min**

Mash step by step

- Heat up **18.9 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **20 min** at **76C**
- Sparge using **26.5 liter(s)** of **76C** water or to achieve **39.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (79.4%)	81 %	4
Grain	Monachijski	1 kg (15.9%)	80 %	16
Grain	Caramunich® typ I	0.2 kg (3.2%)	73 %	80
Grain	Weyermann - Acidulated Malt	0.1 kg (1.6%)	80 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	70 min	10 %
Boil	Tradition	30 g	40 min	5 %
Boil	Sladek	30 g	30 min	6 %
Aroma (end of boil)	Hersbrucker	30 g	10 min	2.4 %
Aroma (end of boil)	Saaz (Czech Republic)	30 g	0 min	3.5 %