

## Pils i nie Pils ze śmieci

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **36**
- SRM **5.4**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **18.8 liter(s)**

### Steps

- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **14.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **18.2 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	0.9 kg (19.1%)	81 %	4
Grain	Weyermann - Monachijski typ I	0.3 kg (6.4%)	80 %	16
Grain	Viking Pale Ale malt	3 kg (63.8%)	80 %	7
Grain	Strzegom Monachijski typ II	0.5 kg (10.6%)	79 %	22

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	60 g	60 min	5.1 %
Aroma (end of boil)	Lubelski	27 g	5 min	3.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	1200 ml	Fermentum Mobile