

## #22 pilz

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **42**
- SRM **4.8**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **50 C**, Time **15 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **54.3C**
- Add grains
- Keep mash **15 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (83.3%)	81 %	4
Grain	Strzegom Monachijski typ I	1 kg (16.7%)	79 %	16

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Herkules	20 g	60 min	20 %
Aroma (end of boil)	Tradition	20 g	10 min	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Old German Altbier9	Ale	Dry	10 g	Gozdawa

### Notes

- 24h po warzeniu zadano drożdże w temp 16stC  
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