

## German Pils - PWZ3

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **31**
- SRM **3.8**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **19 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **63 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **14.3 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **50 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **19.1 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	4.2 kg (88.4%)	80.5 %	4
Grain	BESTMALZ - Best Minich	0.5 kg (10.5%)	80.5 %	16
Grain	Weyermann - Acidulated Malt	0.05 kg (1.1%)	80 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	50 min	13.5 %
Boil	Tradition	25 g	10 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Slant	200 ml	Fermentum Mobile