

## Pils 11%

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **120**
- SRM **3.3**
- Style **German Pilsner (Pils)**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **23.6 liter(s)**

### Steps

- Temp **63 C**, Time **25 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **19.3 liter(s)** of strike water to **67.8C**
- Add grains
- Keep mash **25 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.3 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Izabella	60 g	60 min	4.5 %
Boil	Magnum	50 g	60 min	11.7 %
Whirlpool	Cascade	100 g	15 min	6.9 %

### Yeasts

Name	Type	Form	Amount	Laboratory
WLP013 - London Ale Yeast	Ale	Liquid	50 ml	White Labs
Costal Haze	Ale	Liquid	50 ml	-
US-05	Ale	Dry	11.5 g	-