

## norma

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **16**
- SRM **9.8**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **38 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Sparge using **24 liter(s)** of **76C** water or to achieve **38 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	6 kg (85.7%)	80.5 %	2
Grain	Strzegom Karmel 150	1 kg (14.3%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lubelski	30 g	60 min	7 %