

## Robust porter

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- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **30**
- SRM **30.7**
- Style **Robust Porter**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **10 liter(s)**
- Total mash volume **14 liter(s)**

### Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **10 liter(s)** of strike water to **72.8C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **15.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	2 kg (48.2%)	85 %	7
Grain	Caramel/Crystal Malt - 10L	0.3 kg (7.2%)	75 %	20
Grain	Abbey Malt Weyermann	0.3 kg (7.2%)	75 %	45
Grain	Carafa II	0.15 kg (3.6%)	70 %	812
Grain	Czekoladowy	0.25 kg (6%)	60 %	788
Grain	Monachijski	1 kg (24.1%)	80 %	16
Sugar	Muscovado	0.15 kg (3.6%)	70 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Flyer	15 g	60 min	9.8 %
Boil	English Golding	15 g	15 min	4.8 %
Boil	English Golding	15 g	5 min	4.8 %

### Yeasts

<b>Name</b>	<b>Type</b>	<b>Form</b>	<b>Amount</b>	<b>Laboratory</b>
Safale S-04	Ale	Slant	125 ml	Safale