

## Robust Porter

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **35**
- SRM **30.6**
- Style **Robust Porter**

### Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.9 liter(s)**

### Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

### Steps

- Temp **66 C**, Time **75 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **13.8 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **11.7 liter(s)** of **76C** water or to achieve **20.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (87%)	81 %	4
Grain	Caraaroma	0.25 kg (5.4%)	78 %	400
Grain	Jęczmień palony	0.1 kg (2.2%)	55 %	985
Grain	carafa special II	0.25 kg (5.4%)	50 %	1100

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Boil	Liberty	15 g	30 min	4.5 %
Boil	Liberty	15 g	10 min	4.5 %