

sef

- Gravity **16.4 BLG**
- ABV ---
- IBU **39**
- SRM **31.9**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.2 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **12.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **7.1 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Golden Promise	2.5 kg (61.7%)	81 %	4
Grain	Fawcett - Pale Chocolate	0.25 kg (6.2%)	71 %	600
Grain	Fawcett - Crystal	0.25 kg (6.2%)	70 %	160
Grain	Fawcett-cara malt	0.25 kg (6.2%)	70 %	30
Grain	Fawcett-roasted barley	0.2 kg (4.9%)	70 %	600
Grain	Fawcett-roasted rye	0.2 kg (4.9%)	70 %	240
Grain	Platki owsiane	0.2 kg (4.9%)	85 %	3
Grain	platk jęczmienne	0.2 kg (4.9%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Styrian Golding	50 g	60 min	3.6 %
Boil	Saaz (USA)	50 g	10 min	3.75 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2 g	Boil	10 min