

## sef

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- 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

<b>Name</b>	<b>Type</b>	<b>Form</b>	<b>Amount</b>	<b>Laboratory</b>
Safale S-04	Ale	Dry	11 g	Safale

### **Extras**

<b>Type</b>	<b>Name</b>	<b>Amount</b>	<b>Use for</b>	<b>Time</b>
Water Agent	gips	2 g	Boil	10 min