

Czarny jak Smoła

- Gravity **15.7 BLG**
- ABV ---
- IBU **117**
- SRM **50.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **29 liter(s)**
- Trub loss **5 %**
- Size with trub loss **30.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **37.3 liter(s)**

Mash information

- Mash efficiency **87 %**
- Liquor-to-grist ratio **3.25 liter(s) / kg**
- Mash size **23.6 liter(s)**
- Total mash volume **30.8 liter(s)**

Steps

- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **23.6 liter(s)** of strike water to **74.2C**
- Add grains
- Keep mash **50 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **21 liter(s)** of **76C** water or to achieve **37.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Casle Malting Whisky	2.5 kg (34.5%)	85 %	4
Grain	Viking Pale Ale malt	2.5 kg (34.5%)	80 %	5
Grain	Abbey Castle	0.75 kg (10.3%)	80 %	45
Grain	Weyermann - Dehusked Carafa III	0.5 kg (6.9%)	70 %	1024
Grain	Strzegom Karmel 300	0.5 kg (6.9%)	70 %	299
Grain	Roasted Barley	0.25 kg (3.4%)	55 %	1200
Grain	Oats, Flaked	0.25 kg (3.4%)	80 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Rakau (NZ)	100 g	60 min	10.7 %
Boil	Rakau (NZ)	55 g	25 min	10.7 %
Boil	Rakau (NZ)	45 g	5 min	10.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Dry	10 g	Safale
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