

SM

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **61**
- SRM **37.2**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **28.8 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **68 C**, Time **15 min**
- Temp **68 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **21.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **10 min** at **68C**
- Keep mash **15 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (55.6%)	80 %	5
Grain	Słód Wędzony Steinbach	1 kg (13.9%)	80 %	5
Grain	Brown Malt (British Chocolate)	0.3 kg (4.2%)	70 %	128
Grain	Fawcett - Pale Chocolate	0.3 kg (4.2%)	71 %	600
Grain	Chocolate Malt (UK)	0.3 kg (4.2%)	73 %	887
Grain	Jęczmień palony	0.4 kg (5.6%)	55 %	985
Grain	Płatki owsiane	0.5 kg (6.9%)	85 %	3
Grain	Płatki pszeniczne	0.4 kg (5.6%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	40 g	60 min	15.5 %
Aroma (end of boil)	Mosaic	30 g	10 min	10 %
Dry Hop	Mosaic	20 g	7 day(s)	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	5 g	Safale