

Stout

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **33**
- SRM **21.7**
- Style **Dry Stout**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **26.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.5 liter(s)**
- Total mash volume **20.6 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **15.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **26.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.3 kg (83.5%)	80 %	5
Grain	Jęczmień palony	0.2 kg (3.9%)	55 %	985
Grain	Weyermann - Carafa I	0.25 kg (4.9%)	70 %	690
Grain	Barley, Flaked	0.4 kg (7.8%)	70 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade PL	50 g	60 min	5.2 %
Boil	Cascade PL	25 g	10 min	5.2 %
Boil	Columbus/Tomahawk/Zeus	20 g	1 min	15.5 %

Yeasts

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