

FES homebrewin

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **38**
- SRM **31.3**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **10.5 liter(s)**
- Trub loss **2 %**
- Size with trub loss **10.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.8 liter(s)**
- Total mash volume **13 liter(s)**

Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **9.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **12.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.5 kg (76.9%)	80 %	5
Grain	Viking Munich Malt	0.25 kg (7.7%)	78 %	18
Grain	płatki jęczmienne	0.2 kg (6.2%)	60 %	4
Grain	Viking Czekoladowy ciemny	0.15 kg (4.6%)	67 %	900
Grain	Jęczmień palony	0.15 kg (4.6%)	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	25 g	60 min	7 %
Boil	East Kent Goldings	25 g	5 min	5.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	100 ml	Fermentis