

FES #2

- Gravity **17.1 BLG**
- ABV **7.3 %**
- IBU **41**
- SRM **35.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.8 liter(s)**
- Total mash volume **27.8 liter(s)**

Steps

- Temp **69 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

Mash step by step

- Heat up **20.8 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **15 min** at **72C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (71.9%)	80 %	5
Grain	Viking Munich Malt	0.6 kg (8.6%)	78 %	18
Grain	Caraaroma	1 kg (14.4%)	78 %	400
Grain	Jęczmień palony	0.35 kg (5%)	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	60 g	60 min	7.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	350 ml	Safale