

FES #1

- Gravity **14.3 BLG**
- ABV ---
- IBU **60**
- SRM **28.7**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **17.4 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.6 liter(s)**
- Total mash volume **15.4 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **11.6 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **75C**
- Sparge using **9.7 liter(s)** of **76C** water or to achieve **17.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale Malt	2 kg (51.9%)	80 %	15
Grain	Viking Munich Malt Dark	1 kg (26%)	78 %	57
Grain	Oats, Flaked	0.35 kg (9.1%)	80 %	4
Grain	Caramel/Crystal Malt - 60L	0.2 kg (5.2%)	74 %	120
Grain	Carafa II (Weyermann)	0.15 kg (3.9%)	77.9 %	817
Grain	Viking Chocolate Dark Malt	0.15 kg (3.9%)	71 %	900

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	8.7 %
Boil	Sovereign	30 g	20 min	7.1 %
Boil	Fuggles	30 g	10 min	5.9 %
Boil	East Kent Goldings (EKG)	30 g	5 min	5.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
SafAle English Ale	Ale	Dry	11 g	DCL/Fermentis