

FES50

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **66**
- SRM **41.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **18.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

Steps

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

Mash step by step

- Heat up **13.8 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **9.3 liter(s)** of **76C** water or to achieve **18.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale Malt	3.75 kg (81.5%)	80 %	7
Grain	Barley, Flaked	0.2 kg (4.3%)	70 %	3
Grain	CHÂTEAU BLACK	0.2 kg (4.3%)	73.5 %	1761
Grain	Roasted Barley	0.15 kg (3.3%)	55 %	799
Grain	Carafa I (Weyermann)	0.1 kg (2.2%)	77.9 %	852
Grain	Special B Malt	0.1 kg (2.2%)	65.2 %	479
Grain	Special W	0.1 kg (2.2%)	75 %	405

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Vic Secret	25 g	60 min	15.5 %
Boil	East Kent Goldings (EKG)	10 g	20 min	5 %
Boil	Fuggle	10 g	20 min	4.5 %
Boil	Pulawski	10 g	10 min	7.5 %
Boil	Hallertauer	10 g	5 min	4.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
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American Ale	Ale	Liquid	124 ml	Wyeast Labs
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Extras

Type	Name	Amount	Use for	Time
Water Agent	Phosphoric Acid 85%	1.48 g	Mash	60 min
Water Agent	Calcium Chloride	1 g	Mash	60 min