

FES

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **41**
- SRM **35.2**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **10 %**
- Size with trub loss **12.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.4 liter(s)**
- Total mash volume **13.8 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **0 min**

Mash step by step

- Heat up **10.4 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **0 min** at **76C**
- Sparge using **7.6 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale ale	2 kg (58%)	80 %	6.5
Grain	Viking Munich Malt	0.7 kg (20.3%)	78 %	16
Grain	Weyermann - Caramunich II	0.2 kg (5.8%)	65 %	120
Grain	Weyermann - Carafa Special II	0.15 kg (4.3%)	65 %	1150
Grain	Jęczmień palony	0.2 kg (5.8%)	55 %	985
Grain	płatki jęczmienne	0.2 kg (5.8%)	60 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	23 g	60 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	---