

smoked FES

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **38**
- SRM **32.3**
- 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 **95 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.9 liter(s)**
- Total mash volume **23.8 liter(s)**

Steps

- Temp **68 C**, Time **75 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17.9 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **75 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **14.6 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	2.5 kg (42%)	80 %	5
Grain	Weyermann - Smoked Malt	1 kg (16.8%)	81 %	6
Grain	Weyermann - Grodziski	0.5 kg (8.4%)	80 %	4
Grain	Strzegom Monachijski typ II	0.5 kg (8.4%)	79 %	22
Grain	Carafa III - special	0.4 kg (6.7%)	70 %	1034
Grain	Abbey Malt Weyermann	0.4 kg (6.7%)	75 %	45
Grain	Weyermann - Caraamber	0.25 kg (4.2%)	75 %	65
Grain	Weyermann Caramunich 3	0.25 kg (4.2%)	76 %	150
Grain	Carafa III	0.15 kg (2.5%)	70 %	1034

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	12.1 %
Boil	East Kent Goldings	30 g	15 min	5.4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	100 ml	Fermentis