

Smoked FES

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **49**
- SRM **44.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11 liter(s)**
- Total mash volume **14.6 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **11 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **6.7 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Wędzony bukiem Viking Malt	3 kg (77.9%)	82 %	10
Grain	Caraaroma	0.25 kg (6.5%)	78 %	400
Grain	Weyermann - Dehusked Carafa III	0.1 kg (2.6%)	70 %	1024
Grain	Jęczmień palony	0.1 kg (2.6%)	55 %	985
Sugar	Brown Sugar, Light	0.2 kg (5.2%)	100 %	16
Grain	Strzegom Czekoladowy ciemny	0.2 kg (5.2%)	68 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	50 g	60 min	6.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Slant	300 ml	Fermentum Mobile