

FES

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **31**
- SRM **41.2**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **0 %**
- Size with trub loss **27 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.2 liter(s) / kg**
- Mash size **19.1 liter(s)**
- Total mash volume **27.8 liter(s)**

Steps

- Temp **68 C**, Time **60 min**

Mash step by step

- Heat up **19.1 liter(s)** of strike water to **78.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **29.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6 kg (69%)	80 %	5
Grain	Strzegom Monachijski typ II	0.7 kg (8%)	79 %	22
Grain	Pszeniczny	0.5 kg (5.7%)	85 %	4
Grain	Weyermann - Carafa I special	0.6 kg (6.9%)	70 %	690
Grain	Weyermann - Carared	0.3 kg (3.4%)	75 %	45
Grain	Fawcett - Pszeniczny Czekoladowy	0.6 kg (6.9%)	73 %	1000

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	40 g	60 min	10.3 %