

## FES #3

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- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **29**
- SRM **38.6**
- 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 **15 %/h**
- Boil size **27.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **26.6 liter(s)**

### Steps

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

### Mash step by step

- Heat up **19.6 liter(s)** of strike water to **76.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **72C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	5.5 kg (78.6%)	82 %	4
Grain	Strzegom Czekoladowy jasny	0.5 kg (7.1%)	68 %	400
Grain	Weyermann Specjal W	0.5 kg (7.1%)	68 %	300
Grain	Fawcett - Pszeniczny Czekoladowy	0.5 kg (7.1%)	73 %	1001

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	6.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	400 ml	Fermentis