

## #35 FES v3

- Gravity **19.3 BLG**
- ABV **8.4 %**
- IBU **52**
- SRM **73.8**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24.6 liter(s)**
- Total mash volume **32.8 liter(s)**

### Steps

- Temp **66 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **24.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **90 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **8.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2 kg (24.4%)	80 %	4
Grain	Viking Pale Ale malt	3 kg (36.6%)	80 %	5
Grain	Biscuit Malt	0.5 kg (6.1%)	79 %	45
Grain	Simpsons - Coffee Malt	0.5 kg (6.1%)	74 %	296
Grain	Carafa III	0.2 kg (2.4%)	70 %	1034
Grain	Strzegom Czekoladowy ciemny	1 kg (12.2%)	68 %	1200
Grain	Strzegom Barwiący	0.2 kg (2.4%)	68 %	1300
Grain	Żytni	0.5 kg (6.1%)	85 %	8
Grain	Jęczmień palony	0.3 kg (3.7%)	55 %	985

### Hops

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

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	10 g	Safale