

## FES #2

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **49**
- SRM **37.7**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **67 C**, Time **70 min**
- Temp **67 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **10 min** at **67C**
- Keep mash **70 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **11 liter(s)** of **76C** water or to achieve **26 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (50%)	80 %	4
Grain	Monachijski	1.1 kg (18.3%)	80 %	16
Grain	owsiany	0.7 kg (11.7%)	80 %	6
Grain	Karmelowy ciemny	0.3 kg (5%)	75 %	600
Grain	Strzegom Barwiący	0.3 kg (5%)	68 %	1300
Grain	Jęczmień palony	0.2 kg (3.3%)	55 %	1100
Grain	Płatki żytnie	0.4 kg (6.7%)	85 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Admiral	30 g	60 min	15.7 %
Boil	Fuggles	25 g	10 min	5.9 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	Fermentis