

## FES 8/21

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- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **53**
- SRM **39.2**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **22.6 liter(s)**

### Mash information

- Mash efficiency **63 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **24.4 liter(s)**
- Total mash volume **30.5 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **73 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **24.4 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **73C**
- Keep mash **5 min** at **76C**
- Sparge using **4.3 liter(s)** of **76C** water or to achieve **22.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	4 kg (60.6%)	80 %	7
Grain	Płatki owsiane	1 kg (15.2%)	60 %	3
Grain	Cara Blonde - Castle Malting	0.3 kg (4.5%)	78 %	16
Grain	Jęczmień palony	0.25 kg (3.8%)	55 %	1100
Grain	Strzegom pszenica prażona	0.25 kg (3.8%)	70 %	1000
Grain	Biscuit Malt	0.2 kg (3%)	79 %	45
Grain	Carafa III	0.1 kg (1.5%)	70 %	1034
Liquid Extract	WES ekstrakt słodowy jasny	0.5 kg (7.6%)	80 %	45

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	40 g	60 min	11.2 %
Boil	Mosaic	25 g	1 min	12 %

### Yeasts

<b>Name</b>	<b>Type</b>	<b>Form</b>	<b>Amount</b>	<b>Laboratory</b>
Safale US-05	Ale	Dry	2 g	---