

## FES 14

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **71**
- SRM **26**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **21.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **21.6 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **5.4 liter(s)** of **76C** water or to achieve **21.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	4.4 kg (78.6%)	80.5 %	2
Grain	Caraaroma	0.3 kg (5.4%)	78 %	400
Grain	Weyermann - Carafa I	0.1 kg (1.8%)	70 %	690
Grain	Jęczmień palony	0.2 kg (3.6%)	55 %	985
Grain	płatki jęczmienne	0.4 kg (7.1%)	60 %	4
Sugar	cukier	0.2 kg (3.6%)	--- %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	50 g	60 min	11.5 %
Boil	Lublin (Lubelski)	20 g	30 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Flavor	extrat rum wanilia	3 g	Secondary	7 day(s)