

## 13-tego w piątek (FES) v2

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **46**
- SRM **43.5**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **4 %**
- Size with trub loss **10.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **11 %/h**
- Boil size **12.7 liter(s)**

### Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **10.4 liter(s)**
- Total mash volume **14 liter(s)**

### Steps

- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **10.4 liter(s)** of strike water to **69.3C**
- Add grains
- Keep mash **15 min** at **62C**
- Keep mash **60 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg (55.6%)	80 %	6
Grain	Strzegom Monachijski typ II	0.7 kg (19.4%)	79 %	22
Grain	Caraaroma	0.5 kg (13.9%)	78 %	400
Grain	Carafa	0.4 kg (11.1%)	70 %	664

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Admiral	15 g	60 min	14.3 %
Boil	Fuggles	20 g	15 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	7 g	---

### Extras

Type	Name	Amount	Use for	Time
Fining	Mech Irlandzki	5 g	Boil	15 min

Flavor	wiórki beczki po bourbonie	20 g	Secondary	14 day(s)
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