

## FES #3 Żyt

- Gravity **16.1 BLG**
- ABV **6.5 %**
- IBU **71.8**
- SRM **40**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **17.13 liter(s)**

### Mash information

- Mash efficiency **82 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.01 liter(s)**
- Total mash volume **14.68 liter(s)**

### Steps

- Temp **66 C**, Time **75 min**
- Temp **75 C**, Time **10 min**

### Mash step by step

- Heat up **11.01 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **10 min** at **75C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **17.13 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale Malt	2.2 kg	80 %	15
Grain	Viking Rye Malt	1 kg	81 %	17
Grain	Carafa III (Weyermann)	0.27 kg	77.9 %	2758
Grain	Chocolate Wheat (Weyermann)	0.15 kg	75.74 %	2180
Grain	Viking Caramel 600	0.05 kg	68 %	1600

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pekko	22 g	60 min	17 %
Boil	Oktawia	10 g	20 min	7.8 %
Boil	Oktawia	10 g	15 min	7.8 %
Boil	Oktawia	10 g	5 min	7.8 %
Boil	Oktawia	20 g	0 min	7.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Irlandzkie Ciemności	Ale	Liquid	ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Chlorek Wapnia	7.59 g	Mash	60 min
Water Agent	Sól	3.57 g	Mash	60 min
Water Agent	Siarczan Magnezu (MgSO4)	1.92 g	Mash	60 min