

## SPECIAL FES

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- Gravity **17.7 BLG**
- ABV **7.6 %**
- IBU **26**
- SRM **55.1**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **28.8 liter(s)**

### Steps

- Temp **63 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **21.6 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **60 min** at **63C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5 kg (69.4%)	85 %	7
Grain	Carafa II	0.5 kg (6.9%)	70 %	1050
Grain	Caraaroma	0.5 kg (6.9%)	78 %	400
Grain	Carafa III	0.2 kg (2.8%)	70 %	1034
Grain	Jęczmień palony	0.3 kg (4.2%)	55 %	985
Grain	Castle Cafe	0.3 kg (4.2%)	75.5 %	480
Grain	Płatki owsiane	0.4 kg (5.6%)	60 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	30 g	50 min	8 %
Boil	Golding	30 g	15 min	3.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	23 g	Fermentis