

## FEZ

- Gravity **18.4 BLG**
- ABV ---
- IBU **37**
- SRM **46**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

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

### Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (71.4%)	79 %	6
Adjunct	Briess - Barley Flakes	0.5 kg (7.1%)	70 %	3
Grain	Strzegom Karmel 300	0.3 kg (4.3%)	70 %	299
Grain	Strzegom Czekoladowy jasny	0.2 kg (2.9%)	68 %	400
Grain	Carafa II Special	0.3 kg (4.3%)	70 %	812
Sugar	Cane (Beet) Sugar	0.5 kg (7.1%)	100 %	0
Grain	Jęczmień palony	0.2 kg (2.9%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Phoenix	30 g	60 min	11 %
Boil	Progress	20 g	15 min	5.5 %
Boil	Progress	20 g	5 min	5.5 %

### Yeasts

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