

# FES

- Gravity **18.7 BLG**
- ABV ---
- IBU **68**
- SRM **72**
- 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 **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **30.4 liter(s)**

## Steps

- Temp **68 C**, Time **70 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **68C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield  | EBC  |
|-------|-----------------------------|----------------|--------|------|
| Grain | Strzegom Pale Ale           | 4 kg (52.6%)   | 79 %   | 6    |
| Grain | Płatki owsiane              | 1 kg (13.2%)   | 85 %   | 3    |
| Grain | Casle Malting Whisky Nature | 1 kg (13.2%)   | 85 %   | 4    |
| Grain | Strzegom Karmel 150         | 0.4 kg (5.3%)  | 75 %   | 150  |
| Grain | Special B Malt              | 0.4 kg (5.3%)  | 65.2 % | 315  |
| Grain | Strzegom Czekoladowy 1200   | 0.8 kg (10.5%) | 68 %   | 1202 |

## Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Admiral | 50 g   | 60 min | 14.3 %     |

## Yeasts

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