

# FES

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- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **32**
- SRM **35**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **25 %/h**
- Boil size **13.8 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **16.7 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **13.4 liter(s)** of strike water to **71.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **3.7 liter(s)** of **76C** water or to achieve **13.8 liter(s)** of wort

## Fermentables

| Type  | Name                             | Amount          | Yield | EBC  |
|-------|----------------------------------|-----------------|-------|------|
| Grain | Strzegom Pilzneński              | 2 kg (59.9%)    | 80 %  | 4    |
| Grain | Płatki owsiane                   | 0.4 kg (12%)    | 60 %  | 3    |
| Grain | Special B Castle                 | 0.2 kg (6%)     | 70 %  | 350  |
| Grain | Fawcett - Pale Chocolate         | 0.2 kg (6%)     | 71 %  | 500  |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.11 kg (3.3%)  | 73 %  | 1001 |
| Grain | Strzegom Monachijski typ I       | 0.38 kg (11.4%) | 79 %  | 16   |
| Grain | Carafa II                        | 0.05 kg (1.5%)  | 70 %  | 1000 |

## Hops

| Use for | Name   | Amount | Time   | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil    | Magnum | 15 g   | 60 min | 10.5 %     |

## Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 120 ml | Fermentis  |

## Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

| Type        | Name           | Amount | Use for | Time   |
|-------------|----------------|--------|---------|--------|
| Water Agent | Chlorek wapnia | 4.5 g  | Mash    | 60 min |
| Water Agent | Kreda          | 4 g    | Mash    | 60 min |