

# FES

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- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **50**
- SRM **44.8**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.4 liter(s)**
- Total mash volume **31.2 liter(s)**

## Steps

- Temp **66 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **23.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **30 min** at **66C**
- Keep mash **30 min** at **73C**
- Keep mash **5 min** at **78C**
- Sparge using **12.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

| Type  | Name                             | Amount         | Yield  | EBC  |
|-------|----------------------------------|----------------|--------|------|
| Grain | BESTMALZ - Bestt Pale Ale        | 6.6 kg (84.6%) | 80.5 % | 6    |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.6 kg (7.7%)  | 73 %   | 1001 |
| Grain | Weyermann - Carafa II            | 0.6 kg (7.7%)  | 70 %   | 837  |

## Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Marynka | 50 g   | 60 min | 8.8 %      |
| Boil    | Marynka | 50 g   | 10 min | 8.8 %      |

## Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 100 ml | Fermentis  |