

## FES #2

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **49**
- SRM **37.7**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **67 C**, Time **70 min**
- Temp **67 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **10 min** at **67C**
- Keep mash **70 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **11 liter(s)** of **76C** water or to achieve **26 liter(s)** of wort

### Fermentables

| Type  | Name                | Amount         | Yield | EBC  |
|-------|---------------------|----------------|-------|------|
| Grain | Strzegom Pilzneński | 3 kg (50%)     | 80 %  | 4    |
| Grain | Monachijski         | 1.1 kg (18.3%) | 80 %  | 16   |
| Grain | owsiany             | 0.7 kg (11.7%) | 80 %  | 6    |
| Grain | Karmelowy ciemny    | 0.3 kg (5%)    | 75 %  | 600  |
| Grain | Strzegom Barwiący   | 0.3 kg (5%)    | 68 %  | 1300 |
| Grain | Jęczmień palony     | 0.2 kg (3.3%)  | 55 %  | 1100 |
| Grain | Płatki żytnie       | 0.4 kg (6.7%)  | 85 %  | 10   |

### Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Admiral | 30 g   | 60 min | 15.7 %     |
| Boil    | Fuggles | 25 g   | 10 min | 5.9 %      |

### Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 200 ml | Fermentis  |