

## FES 14

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- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **71**
- SRM **26**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **21.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **27 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **21.6 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **5.4 liter(s)** of **76C** water or to achieve **21.6 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield  | EBC |
|-------|----------------------|----------------|--------|-----|
| Grain | Briess - Pilsen Malt | 4.4 kg (78.6%) | 80.5 % | 2   |
| Grain | Caraaroma            | 0.3 kg (5.4%)  | 78 %   | 400 |
| Grain | Weyermann - Carafa I | 0.1 kg (1.8%)  | 70 %   | 690 |
| Grain | Jęczmień palony      | 0.2 kg (3.6%)  | 55 %   | 985 |
| Grain | płatki jęczmienne    | 0.4 kg (7.1%)  | 60 %   | 4   |
| Sugar | cukier               | 0.2 kg (3.6%)  | --- %  | --- |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Magnum            | 50 g   | 60 min | 11.5 %     |
| Boil    | Lublin (Lubelski) | 20 g   | 30 min | 4 %        |

### Yeasts

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

### Extras

| Type   | Name               | Amount | Use for   | Time     |
|--------|--------------------|--------|-----------|----------|
| Flavor | extrat rum wanilia | 3 g    | Secondary | 7 day(s) |