

## F.E.S-t

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- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **34**
- SRM **23.6**
- 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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **18.3 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                           | Amount        | Yield | EBC |
|-------|--------------------------------|---------------|-------|-----|
| Grain | Pilzneński                     | 5 kg (82%)    | 81 %  | 4   |
| Grain | Caraaroma                      | 0.3 kg (4.9%) | 78 %  | 400 |
| Grain | Jęczmień palony                | 0.2 kg (3.3%) | 55 %  | 985 |
| Grain | Carafa                         | 0.1 kg (1.6%) | 70 %  | 664 |
| Grain | Płatki jęczmienne błyskawiczne | 0.5 kg (8.2%) | --- % | --- |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Marynka           | 30 g   | 50 min | 10 %       |
| Boil    | Lublin (Lubelski) | 40 g   | 10 min | 4 %        |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |