

## Strong FES

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- Gravity **22.5 BLG**
- ABV ---
- IBU **52**
- SRM **96.6**
- 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 **26.1 liter(s)**
- Total mash volume **34.8 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **70 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **26.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **70C**
- Keep mash **10 min** at **78C**
- Sparge using **7.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount        | Yield | EBC  |
|-------|-----------------------------|---------------|-------|------|
| Grain | Strzegom Pale Ale           | 5 kg (57.5%)  | 79 %  | 6    |
| Grain | Pszeniczny                  | 1 kg (11.5%)  | 85 %  | 4    |
| Grain | Strzegom pszenica prażona   | 1 kg (11.5%)  | 70 %  | 1000 |
| Grain | Słód karmelowy 600 Strzegom | 1 kg (11.5%)  | --- % | ---  |
| Grain | Carafa III                  | 0.4 kg (4.6%) | 70 %  | 1034 |
| Grain | Strzegom Czekoladowy ciemny | 0.3 kg (3.4%) | 68 %  | 1200 |

### Hops

| Use for | Name       | Amount | Time   | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil    | Challenger | 90 g   | 60 min | 7 %        |

### Yeasts

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