

FES

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **37**
- SRM **36.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **17.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **14 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **78C**
- Sparge using **7.9 liter(s)** of **76C** water or to achieve **17.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---|----------------|-------|------|
| Grain | Słód jęczmienny monachijski typ I 12-18 EBC Weyermann | 0.7 kg (17.5%) | 79 % | 15 |
| Grain | Caraaroma | 0.5 kg (12.5%) | 78 % | 400 |
| Grain | Słód jęczmienny Pilzneński Weyermann | 1 kg (25%) | 80 % | 4 |
| Grain | Słód jęczmienny Wiedeński Weyermann | 1 kg (25%) | 79 % | 10 |
| Grain | Słód jęczmienny Caramunich Typ II Weyermann | 0.5 kg (12.5%) | 73 % | 120 |
| Grain | Carafa III | 0.1 kg (2.5%) | 70 % | 1400 |
| Grain | Słód jęczmienny Château Cafe Castle Malting | 0.2 kg (5%) | 77 % | 500 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Challenger | 40 g | 60 min | 6.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-05 | Ale | Dry | 11.5 g | --- |