

FES v1

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **52**
- SRM **54.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **10.5 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **80 min**
- Evaporation rate **15 %/h**
- Boil size **15.1 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.5 liter(s)**

Steps

- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **12.9 liter(s)** of strike water to **74.2C**
- Add grains
- Keep mash **30 min** at **66C**
- Keep mash **30 min** at **72C**
- Sparge using **6.8 liter(s)** of **76C** water or to achieve **15.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--|----------------|--------|------|
| Grain | Strzegom Pilzneński | 3.5 kg (76.1%) | 80 % | 4 |
| Grain | Cara Gold Castlemalting | 0.2 kg (4.3%) | 78 % | 120 |
| Grain | Special B Malt | 0.1 kg (2.2%) | 65.2 % | 315 |
| Grain | Płatki owsiane | 0.1 kg (2.2%) | 60 % | 3 |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.3 kg (6.5%) | 73 % | 1001 |
| Grain | Jęczmień palony | 0.4 kg (8.7%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil | Magnum | 25 g | 60 min | 13 % |