

FES

- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **40**
- SRM **30.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **8 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.7 liter(s)**
- Total mash volume **28.9 liter(s)**

Steps

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

Mash step by step

- Heat up **21.7 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **11.5 liter(s)** of **76C** water or to achieve **26 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 5.8 kg (80.2%) | 80 % | 4 |
| Grain | Caraaroma | 0.4 kg (5.5%) | 78 % | 400 |
| Grain | Carafa | 0.2 kg (2.8%) | 70 % | 664 |
| Grain | Płatki owsiane | 0.53 kg (7.3%) | 85 % | 3 |
| Grain | Jęczmień palony | 0.3 kg (4.1%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Lunga | 37 g | 50 min | 11 % |
| Boil | Lublin (Lubelski) | 40 g | 10 min | 4 % |