

Fes

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **49**
- SRM **23.3**
- 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 **65 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.8 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|--------|-----|
| Grain | Briess - Pilsen Malt | 5 kg (89.3%) | 80.5 % | 2 |
| Grain | Caraaroma | 0.3 kg (5.4%) | 78 % | 400 |
| Grain | Weyermann - Carafa I | 0.1 kg (1.8%) | 70 % | 690 |
| Grain | Jęczmień palony | 0.2 kg (3.6%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------|--------|--------|------------|
| Boil | lunga | 40 g | 50 min | 11 % |
| Boil | Styrian Golding | 40 g | 10 min | 3.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 15 g | Safale |