

sef

- Gravity **16.4 BLG**
- ABV ---
- IBU **39**
- SRM **31.9**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.2 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **12.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **7.1 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Simpsons - Golden Promise | 2.5 kg (61.7%) | 81 % | 4 |
| Grain | Fawcett - Pale Chocolate | 0.25 kg (6.2%) | 71 % | 600 |
| Grain | Fawcett - Crystal | 0.25 kg (6.2%) | 70 % | 160 |
| Grain | Fawcett-cara malt | 0.25 kg (6.2%) | 70 % | 30 |
| Grain | Fawcett-roasted barley | 0.2 kg (4.9%) | 70 % | 600 |
| Grain | Fawcett-roasted rye | 0.2 kg (4.9%) | 70 % | 240 |
| Grain | Płatki owsiane | 0.2 kg (4.9%) | 85 % | 3 |
| Grain | płatki jęczmienne | 0.2 kg (4.9%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------|--------|--------|------------|
| Boil | Styrian Golding | 50 g | 60 min | 3.6 % |
| Boil | Saaz (USA) | 50 g | 10 min | 3.75 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|-------------|-------------|---------------|-------------------|
| Safale S-04 | Ale | Dry | 11 g | Safale |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-------------|---------------|----------------|-------------|
| Water Agent | gips | 2 g | Boil | 10 min |