

Stout

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **21**
- SRM **39**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **77 C**, Time **20 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **73.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **20 min** at **77C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------|----------------|-------|------|
| Grain | Castle Pale Ale | 4 kg (74.1%) | 80 % | 8 |
| Grain | Briess - Chocolate Malt | 0.2 kg (3.7%) | 60 % | 690 |
| Grain | Extra black | 0.3 kg (5.6%) | 65 % | 1400 |
| Grain | Jęczmień palony | 0.3 kg (5.6%) | 55 % | 985 |
| Grain | Pszoniczny | 0.6 kg (11.1%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Chinook | 15 g | 60 min | 11.6 % |
| Aroma (end of boil) | Chinook | 13 g | 5 min | 11.6 % |