

Porter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **20**
- SRM **23.8**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **25 %/h**
- Boil size **27.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **64 C**, Time **60 min**
- Temp **77 C**, Time **0 min**

Mash step by step

- Heat up **14.3 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **0 min** at **77C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **27.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 3.5 kg (73.7%) | 80 % | 6 |
| Grain | Fawcett - Brown | 0.5 kg (10.5%) | 72 % | 180 |
| Grain | Karmelowy Czerwony | 0.5 kg (10.5%) | 75 % | 59 |
| Grain | Pszeniczny Czekoladowy Weyermann | 0.25 kg (5.3%) | 73 % | 1001 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Fuggles | 30 g | 50 min | 4.3 % |
| Boil | Fuggles | 20 g | 20 min | 4.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |