

Flaps

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **15**
- SRM **29.3**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- Size with trub loss **20 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **21 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

Mash step by step

- Heat up **15.4 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **75C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **21 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 3 kg (68.2%) | 80 % | 5 |
| Grain | Caramunich® typ I | 0.5 kg (11.4%) | 73 % | 80 |
| Grain | Simpsons - Coffee Malt | 0.5 kg (11.4%) | 74 % | 296 |
| Grain | Strzegom Czekoladowy jasny | 0.2 kg (4.5%) | 68 % | 400 |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.2 kg (4.5%) | 73 % | 1001 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Lublin (Lubelski) | 30 g | 60 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------|------|--------|--------|------------|
| Wyeast 1450 Denny's Favorite | Ale | Liquid | 100 ml | --- |