

Hops in black

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **31**
- SRM **32.5**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.6 liter(s) / kg**
- Mash size **11.7 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **11.7 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **26.5 liter(s)** of **76C** water or to achieve **33.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|----------------|--|----------------|-------|------|
| Liquid Extract | Ekstrakt słodowy Pale Ale, Bruntal | 1.7 kg (27.4%) | 80 % | 35 |
| Grain | Czekoladowy ciemny, Castle Malting | 0.5 kg (8.1%) | 68 % | 1500 |
| Grain | Płatki owsiane | 1 kg (16.1%) | 85 % | 3 |
| Grain | Pale Ale, Castle Malting | 3 kg (48.4%) | 80 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|----------|------------|
| Boil | Chinook | 28.3 g | 50 min | 11.6 % |
| Aroma (end of boil) | Centennial | 28.3 g | 5 min | 10.2 % |
| Dry Hop | Cascade | 28.3 g | 3 day(s) | 8.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------|------|-------|--------|------------|
| Gervin GV12 Ale | Ale | Slant | 500 ml | --- |