

APA

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **22**
- SRM **4.1**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **7 %**
- Size with trub loss **26.9 liter(s)**
- Boil time **30 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **24.3 liter(s)**

Steps

- Temp **69 C**, Time **60 min**

Mash step by step

- Heat up **18.9 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|---------------|--------|-----|
| Grain | Maris Otter - Pale Ale | 5 kg (92.6%) | 80.3 % | 6 |
| Grain | Płatki pszeniczne | 0.4 kg (7.4%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Magnum | 15 g | 20 min | 13.5 % |
| Boil | Cascade | 30 g | 10 min | 6 % |
| Boil | Centennial | 50 g | 2 min | 10.5 % |