

HAPA

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **30**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.1 liter(s)**
- Total mash volume **16.1 liter(s)**

Steps

- Temp **67 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **12.1 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **40 min** at **67C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.1 kg (52.2%) | 80 % | 5 |
| Grain | Pszeniczny | 0.9 kg (22.4%) | 80 % | 4 |
| Grain | Płatki pszeniczne | 0.6 kg (14.9%) | 70 % | 3 |
| Grain | Płatki owsiane | 0.3 kg (7.5%) | 70 % | 3 |
| Grain | Abbey Castle | 0.12 kg (3%) | 80 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------|--------|----------|------------|
| Whirlpool | Rakau (NZ) | 25 g | 20 min | 10.5 % |
| Whirlpool | Centennial | 40 g | 20 min | 10.5 % |
| Dry Hop | Rakau (NZ) | 25 g | 3 day(s) | 10.5 % |
| Dry Hop | Centennial | 33 g | 3 day(s) | 10.5 % |