

# 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 %     |