

APA

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **30**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **24.1 liter(s)**
- Total mash volume **30.6 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **24.1 liter(s)** of strike water to **72.2C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **10.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 1.5 kg (23.1%) | 80 % | 5 |
| Grain | Viking Pilsner malt | 1.9 kg (29.2%) | 82 % | 4 |
| Grain | Simpsons - Maris Otter | 1 kg (15.4%) | 81 % | 6 |
| Grain | Słód owsiany Fawcett | 1 kg (15.4%) | 61 % | 5 |
| Grain | Pszeniczny | 0.8 kg (12.3%) | 85 % | 4 |
| Grain | Weyermann - Carapils | 0.3 kg (4.6%) | 78 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 20 g | 60 min | 15.5 % |
| Aroma (end of boil) | Mosaic | 24 g | 0 min | 10 % |
| Aroma (end of boil) | Mandarina Bavaria | 28 g | 0 min | 10 % |
| Aroma (end of boil) | Calypso | 20 g | 0 min | 12 % |
| Aroma (end of boil) | Simcoe | 20 g | 0 min | 13.2 % |
| Aroma (end of boil) | Chinook | 20 g | 0 min | 13 % |
| Dry Hop | Galaxy | 50 g | 3 day(s) | 16.3 % |

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|---------|--------------------|------|----------|------|
| Dry Hop | Chinook | 20 g | 3 day(s) | 13 % |
| Dry Hop | Mandarina Bavarian | 20 g | 3 day(s) | 10 % |
| Dry Hop | Calypso | 20 g | 3 day(s) | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------|------|------|--------|------------|
| Lallemand - LalBrew Verdant IPA | Ale | Dry | 22 g | Lallemand |