

apa2

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **46**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **60 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **66.7C**
- Add grains
- Keep mash **30 min** at **60C**
- Keep mash **30 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------|-------------|-------|-----|
| Grain | MARIS OTTER | 5 kg (100%) | 80 % | 6 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil | Citra | 5 g | 30 min | 13 % |
| Boil | Centennial | 20 g | 20 min | 10.5 % |
| Aroma (end of boil) | Cascade | 7 g | 20 min | 6 % |
| Boil | citra | 28 g | 20 min | 13 % |
| Boil | Centennial | 7 g | 0 min | 10.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us 05 | Ale | Dry | 11 g | --- |