

APA

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **50**
- SRM **4.4**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **3 %**
- Size with trub loss **25 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **30.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|-------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (100%) | 85 % | 7 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 20 g | 60 min | 16.1 % |
| Boil | Columbus/Tomahawk/Zeus | 20 g | 20 min | 16.1 % |
| Boil | Columbus/Tomahawk/Zeus | 10 g | 5 min | 16.1 % |
| Dry Hop | Citra | 60 g | 4 day(s) | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 11 g | Fermentis |