

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **32**
- SRM **7.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **68 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **24.3 liter(s)**
- Total mash volume **31.3 liter(s)**

Steps

- Temp **67 C**, Time **90 min**
- Temp **76 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **24.3 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **10 min** at **76C**
- Keep mash **0 min** at **78C**
- Sparge using **6.8 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pilsner malt | 0.97 kg (14%) | 82 % | 4 |
| Grain | Viking Pale Ale malt | 5.9 kg (84.9%) | 80 % | 5 |
| Grain | Caraaroma | 0.08 kg (1.2%) | 78 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 12 g | 50 min | 15.5 % |
| Boil | Simcoe | 10 g | 15 min | 13.2 % |
| Boil | Simcoe | 30 g | 5 min | 13.2 % |
| Dry Hop | Simcoe | 60 g | 3 day(s) | 13.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 100 ml | Fermentis |