

Bitter Viking Alt

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **118**
- SRM **4**
- Style **Düsseldorf Altbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25 liter(s)**

Steps

- Temp **64 C**, Time **60 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **60 min** at **64C**
- Sparge using **11.8 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|-------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (100%) | 80 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | Chinook | 25 g | 60 min | 13 % |
| Boil | Magnum | 58 g | 50 min | 13.5 % |
| Boil | Puławski | 20 g | 5 min | 8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 20 g | Fermentis |