

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **72**
- SRM **3.3**

Batch size

- Expected quantity of finished beer **42 liter(s)**
- Trub loss **5 %**
- Size with trub loss **44.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **60.4 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **31.5 liter(s)**
- Total mash volume **40.5 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **31.5 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **0 min** at **78C**
- Sparge using **37.9 liter(s)** of **76C** water or to achieve **60.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|--------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (55.6%) | 80 % | 5 |
| Grain | Viking Pilsner malt | 3 kg (33.3%) | 82 % | 4 |
| Grain | Oats, Flaked | 1 kg (11.1%) | 80 % | 2 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------------------|--------|--------|------------|
| Boil | Zula | 100 g | 60 min | 10.6 % |
| Aroma (end of boil) | hellertauer magnum | 100 g | 1 min | 11.8 % |
| Boil | Centennial | 100 g | 10 min | 9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|-------|--------|------------|
| us 05 | Ale | Slant | 200 ml | --- |