

#21 I

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **89**
- SRM **4.6**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **13.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9 liter(s)**
- Total mash volume **12 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **9 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **13.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.2 kg (73.3%) | 80 % | 5 |
| Grain | Viking Wheat Malt | 0.6 kg (20%) | 83 % | 5 |
| Grain | Weyermann - Rye Malt | 0.2 kg (6.7%) | 85 % | 7 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|----------|--------|----------|------------|
| Boil | Magnum | 25 g | 55 min | 12.1 % |
| Whirlpool | Amarillo | 30 g | 40 min | 9.5 % |
| Whirlpool | Cascade | 20 g | 40 min | 6 % |
| Dry Hop | Amarillo | 25 g | 2 day(s) | 9.5 % |
| Dry Hop | Cascade | 25 g | 2 day(s) | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 6 g | Fermentis |