

Bitter

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **7.8**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **65 C**, Time **65 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **65 min** at **65C**
- Keep mash **5 min** at **76C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|-----|
| Grain | Pale Ale Maris Otter Extra | 5 kg (90.9%) | 80 % | 4 |
| Grain | Caramel/Crystal Malt - 120L | 0.5 kg (9.1%) | 72 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | Columbus | 20 g | 60 min | 15.4 % |
| Boil | Fuggles | 50 g | 10 min | 5.3 % |
| Boil | Fuggles | 50 g | 0 min | 5.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11 g | --- |