

#037 Bitter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **25**
- SRM **10.6**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **8 %**
- Size with trub loss **24.8 liter(s)**
- Boil time **65 min**
- Evaporation rate **11 %/h**
- Boil size **31.9 liter(s)**

Mash information

- Mash efficiency **79 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **22.6 liter(s)**
- Total mash volume **28.2 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **22.6 liter(s)** of strike water to **70.6C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **78C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **31.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|--------|-----|
| Grain | Simpsons - Maris Otter | 5 kg (88.5%) | 81 % | 6 |
| Grain | Fawcett - Crystal | 0.3 kg (5.3%) | 70 % | 160 |
| Grain | Weyermann Caramunich 3 | 0.25 kg (4.4%) | 76 % | 150 |
| Grain | Special B Malt | 0.1 kg (1.8%) | 65.2 % | 350 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Challenger | 25 g | 60 min | 6.1 % |
| Boil | Hallertau Spalt Select | 35 g | 10 min | 5.5 % |
| Aroma (end of boil) | Challenger | 25 g | 5 min | 6.1 % |
| Aroma (end of boil) | Hallertau Spalt Select | 20 g | 5 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------|------|--------|---------|-------------|
| Wyeast 1469 West Yorkshire Ale | Ale | Liquid | 1000 ml | Wyeast Labs |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------------|--------|---------|--------|
| Fining | whirfloc t | 1.25 g | Boil | 10 min |