

## #9\_Bitter

- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **29**
- SRM **6.5**
- Style **Special/Best/Premium Bitter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                   | Amount         | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt   | 3.5 kg (87.5%) | 80 %  | 5   |
| Grain | Simpsons Amber         | 0.3 kg (7.5%)  | 75 %  | 55  |
| Grain | Simpsons Crystal Light | 0.2 kg (5%)    | 75 %  | 100 |

### Hops

| Use for | Name       | Amount | Time   | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil    | Challenger | 20 g   | 60 min | 7 %        |
| Boil    | Willamette | 50 g   | 10 min | 5 %        |
| Boil    | Willamette | 50 g   | 0 min  | 5 %        |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Safale     |

### Extras

| Type   | Name      | Amount | Use for | Time  |
|--------|-----------|--------|---------|-------|
| Fining | Whirflock | 5 g    | Boil    | 5 min |