

#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 |