

## Bitter #1

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- Gravity **7.6 BLG**
- ABV **2.9 %**
- IBU **31**
- SRM **9.4**
- Style **Standard/Ordinary Bitter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **30 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9 liter(s)**
- Total mash volume **12 liter(s)**

### Steps

- Temp **66 C**, Time **30 min**

### Mash step by step

- Heat up **9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **30 min** at **66C**
- Sparge using **18.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.7 kg (90%)	80 %	5
Grain	Strzegom Karmel 300	0.3 kg (10%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	20 g	30 min	9 %
Boil	Sovereign	20 g	30 min	6.1 %
Whirlpool	Sovereign	30 g	0 min	6.1 %

### Yeasts

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