

## #30 Bitter

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **39**
- SRM **7.2**
- 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 **60 min**
- Evaporation rate **14 %/h**
- Boil size **27.1 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **17.8 liter(s)**

### Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **79 C**, Time **1 min**

### Mash step by step

- Heat up **14.1 liter(s)** of strike water to **69.8C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **79C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **27.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3.5 kg (94.1%)	80 %	7
Grain	Caramel/Crystal Malt - 40L	0.2 kg (5.4%)	74 %	110
Grain	Carafa III	0.018 kg (0.5%)	70 %	1300

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	26 g	60 min	12 %
Whirlpool	Pilgrim	120 g	1 min	8.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 1318 London Ale III	Ale	Liquid	1200 ml	Wyeast Labs
Starter				