

## #42 Bitter

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **45**
- SRM **8.8**
- 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 **84 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **15.4 liter(s)**

### Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **1 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **79C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **27.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Maris Otter Crisp	3.15 kg (92%)	80 %	6.5
Grain	Crystal Light	0.17 kg (5%)	72 %	110
Grain	Caramel/Crystal Malt - 120L	0.08 kg (2.3%)	72 %	270
Grain	Weyermann - Dehusked Carafo III	0.025 kg (0.7%)	1 %	1400

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	25 g	60 min	11 %
Boil	East Kent Goldings	30 g	10 min	4.5 %
Boil	Fuggles	30 g	10 min	4.2 %
Whirlpool	Fuggles	20 g	1 min	4.5 %
Whirlpool	East Kent Goldings	20 g	1 min	5.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

WLP002 - English Ale Yeast	Ale	Slant	80 ml	White Labs
-------------------------------	-----	-------	-------	------------