

# bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **40**
- SRM **12.3**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.4 liter(s)**
- Total mash volume **9.9 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **65 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **7.4 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **65 min** at **63C**
- Keep mash **10 min** at **76C**
- Sparge using **9.1 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) UK	2.4 kg (97.2%)	78 %	6
Grain	Black Barley (Roast Barley)	0.05 kg (2%)	55 %	1300
Grain	Caramel/Crystal Malt - 120L	0.02 kg (0.8%)	72 %	236

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	10 g	45 min	8.1 %
Boil	East Kent Goldings	15 g	20 min	6.2 %
Boil	Challenger	15 g	15 min	8.1 %
Dry Hop	East Kent Goldings	15 g	4 day(s)	6.2 %
Dry Hop	Challenger	15 g	4 day(s)	8.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	9 g	Safale