

# BITTER

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **27**
- SRM **11.5**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29.1 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **20.3 liter(s)**

## Steps

- Temp **55 C**, Time **1 min**
- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **15.8 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **76C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **29.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Best	4 kg (88.9%)	80 %	6
Grain	Carapils Best	0.2 kg (4.4%)	75 %	60
Grain	Carahell Best	0.2 kg (4.4%)	75 %	30
Grain	Carafa II Best	0.1 kg (2.2%)	65 %	1100

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	30 g	60 min	5.7 %
Boil	East Kent Goldings	30 g	15 min	5.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 1728 Scottish Ale	Ale	Slant	200 ml	Wyeast Labs

## Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc T	1.25 g	Boil	5 min