

# Bitter

- Gravity **10 BLG**
- ABV **4 %**
- IBU **31**
- SRM **9.2**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **27 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.3 liter(s)**
- Total mash volume **19.7 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **15.3 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **27 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (91.4%)	80 %	5
Grain	Caramel/Crystal Malt - 120L	0.375 kg (8.6%)	72 %	236

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	20 g	60 min	14 %
Boil	East Kent Goldings	25 g	0 min	4.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - Irish Ale	Ale	Slant	150 ml	Wyeast Labs

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Lactic Acid	12 g	Mash	60 min
Water Agent	CaSO4	5 g	Mash	60 min