

# Bitter

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **33**
- SRM **9.9**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **15.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **9.5 liter(s)**
- Total mash volume **12.2 liter(s)**

## Steps

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

## Mash step by step

- Heat up **9.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **15.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	2 kg (74.1%)	80 %	7
Grain	Fawcett - Crystal	0.25 kg (9.3%)	70 %	160
Grain	Biscuit Malt	0.25 kg (9.3%)	79 %	45
Grain	Pszeniczny	0.2 kg (7.4%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	7 g	60 min	11 %
Boil	Equinox	13 g	10 min	13.5 %
Boil	East Kent Goldings	15 g	5 min	4.5 %
Boil	Northdown	10 g	5 min	8.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP023 - Burton Ale Yeast	Ale	Liquid	30 ml	White Labs