

# Bitter

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **30**
- SRM **11.1**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## 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 **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **1 min** at **76C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4.5 kg (81.8%)	85 %	7
Grain	Strzegom Karmel 150	0.5 kg (9.1%)	75 %	150
Grain	Biscuit Malt	0.5 kg (9.1%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	20 g	55 min	11 %
Boil	Sovereign	20 g	20 min	6.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Dry	11 g	Fermentis