

# BITTER 1

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- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **71**
- SRM **9.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **0 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **18 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Fawcett Maris Otter	5 kg (83.3%)	81 %	6
Grain	Strzegom Karmel 150	0.5 kg (8.3%)	75 %	150
Grain	płatki jęczmienne	0.5 kg (8.3%)	70 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	40 g	60 min	15 %
Boil	East Kent Goldings	20 g	20 min	5.4 %
Boil	East Kent Goldings	10 g	7 min	5.4 %
Whirlpool	East Kent Goldings	20 g	30 min	5.4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	---

## Extras

Type	Name	Amount	Use for	Time
Fining	whirlflock	1.3 g	Boil	10 min