

# BITTER 1

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **40**
- SRM **7.3**
- 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 **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

## Steps

- Temp **67 C**, Time **80 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **16.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **80 min** at **67C**
- Keep mash **5 min** at **75C**
- Sparge using **14.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	5 kg (89.3%)	81 %	6
Grain	crystal light	0.25 kg (4.5%)	74 %	100
Grain	Amber Malt	0.25 kg (4.5%)	75 %	43
Grain	Słód owsiany Fawcett	0.1 kg (1.8%)	61 %	5

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Junga	30 g	60 min	10.7 %
Boil	East Kent Goldings	30 g	5 min	5.8 %
Boil	Fuggles	25 g	5 min	5.9 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM11 Wichrowe Wzgórza	Ale	Liquid	900 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
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Fining	whirfloc	1 g	Boil	5 min
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## Notes

- Starter krecony 2 dni  
*Mar 11, 2020, 12:00 AM*