

# Special Bitter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **34**
- SRM **10.9**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **27.9 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **22.2 liter(s)**
- Total mash volume **28.2 liter(s)**

## Steps

- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **22.2 liter(s)** of strike water to **73.4C**
- Add grains
- Keep mash **50 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.7 liter(s)** of **76C** water or to achieve **27.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	4 kg (66.7%)	81 %	6
Grain	Monachijski	0.5 kg (8.3%)	80 %	16
Grain	Fawcett - Brown	0.5 kg (8.3%)	72 %	180
Grain	Melanoiden Malt	0.5 kg (8.3%)	80 %	39
Grain	tostowy	0.5 kg (8.3%)	80 %	10

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	15 g	60 min	10 %
Boil	Golding	25 g	60 min	5 %
Boil	Golding	25 g	20 min	5 %
Whirlpool	East Kent Goldings	30 g	0 min	5.1 %
Whirlpool	Fuggles	30 g	0 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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wyeast 1469 west Yorkshire ale	Ale	Liquid	1000 ml	wyeast
starter drożdżowy				

### Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	5 g	Boil	10 min
Fining	wirflook	10 g	Boil	15 min