

# English Special Bitter

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **44**
- SRM **12.2**
- 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 **7 %/h**
- Boil size **24.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **21.4 liter(s)**

## Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.8 kg (89.7%)	80 %	5
Grain	Weyermann - Carapils	0.3 kg (5.6%)	78 %	4
Grain	Amber Malt	0.15 kg (2.8%)	75 %	90
Grain	Weyermann - Carafa II Special	0.1 kg (1.9%)	70 %	1100

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	16.5 %
Boil	Marynka	15 g	0 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - London ESB Ale	Ale	Liquid	100 ml	Wyeast Labs

Drożdże namnożone w starterze 1 l 10 Blg.