

## extra special bitter

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- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **39**
- SRM **10.6**
- 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 **22 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **27.6 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 **68 C**, Time **80 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **18 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (66.7%)	80 %	5
Grain	Biscuit Malt	1 kg (16.7%)	79 %	45
Grain	Karmelowy Czerwony	1 kg (16.7%)	75 %	59

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	20 g	60 min	5.9 %
Boil	East Kent Goldings	20 g	60 min	5.4 %
Aroma (end of boil)	Fuggles	30 g	15 min	5.9 %
Aroma (end of boil)	East Kent Goldings	30 g	15 min	5.4 %
Dry Hop	Fuggles	50 g	3 day(s)	5.9 %
Dry Hop	East Kent Goldings	50 g	3 day(s)	5.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	15 min
Water Agent	gips piwowarski	4 g	Mash	80 min