

## EXTRA SPECIAL BITTER

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **34**
- SRM **12.7**
- 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 **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **75 C**, Time **10 min**
- Temp **80 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **75C**
- Keep mash **10 min** at **80C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking malt pale ale	4.5 kg (86.2%)	80 %	5
Grain	Caramel/Crystal Malt - 120L	0.28 kg (5.4%)	72 %	236
Grain	Briess - Wheat Malt, White	0.136 kg (2.6%)	85 %	5
Grain	Chocolate Malt (UK)	0.08 kg (1.5%)	73 %	887
Sugar	GOLDEN SYRUP	0.226 kg (4.3%)	--- %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Northdown	30 g	60 min	8.2 %
Aroma (end of boil)	Fuggles	35 g	10 min	4.5 %
Whirlpool	Fuggles	20 g	10 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
WLP002 - English Ale Yeast	Ale	Liquid	20 ml	White Labs

## Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	4 g	Boil	10 min