

## Bitter Czesława 2.0

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- Gravity **13.6 BLG**
- ABV ---
- IBU **51**
- SRM **10.9**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **5 %**
- Size with trub loss **14.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **17.2 liter(s)**

### Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.7 liter(s)**
- Total mash volume **12.9 liter(s)**

### Steps

- Temp **62 C**, Time **25 min**
- Temp **67 C**, Time **45 min**

### Mash step by step

- Heat up **9.7 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **25 min** at **62C**
- Keep mash **45 min** at **67C**
- Sparge using **10.7 liter(s)** of **76C** water or to achieve **17.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) UK	2.8 kg (86.7%)	78 %	7
Grain	Briess - Wheat Malt, White	0.3 kg (9.3%)	85 %	5
Grain	Caramel/Crystal Malt - 120L	0.08 kg (2.5%)	72 %	120
Grain	Black Barley (Roast Barley)	0.05 kg (1.5%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	30 min	13.5 %
Aroma (end of boil)	Fuggles	20 g	35 min	4.5 %
Boil	East Kent Goldings	20 g	20 min	6.7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	7 g	Safale