

## bitter v0.2

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **30**
- SRM **6.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **7.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **7.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **9.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **5.3 liter(s)**
- Total mash volume **7 liter(s)**

### Steps

- Temp **40 C**, Time **30 min**
- Temp **67 C**, Time **60 min**

### Mash step by step

- Heat up **5.3 liter(s)** of strike water to **43.3C**
- Add grains
- Keep mash **30 min** at **40C**
- Keep mash **60 min** at **67C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **9.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	1.6 kg (91.4%)	--- %	---
Grain	Weyermann Caramunich 3	0.15 kg (8.6%)	76 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	14 g	60 min	5.1 %
Aroma (end of boil)	East Kent Goldings	5 g	30 min	5.1 %
Whirlpool	East Kent Goldings	5 g	15 min	5.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Liquid	30 ml	Fermentum Mobile
1 L starter ok 36h wcześniej				

### Extras

Type	Name	Amount	Use for	Time
Fining	irish moss	0.5 g	Boil	15 min