

## Bitter #3

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **40**
- SRM **9.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

### Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **18.2 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**

### Mash step by step

- Heat up **13 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **20.8 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.5 kg (78.9%)	80 %	5
Grain	Strzegom Karmel 150	0.15 kg (2.6%)	75 %	150
Grain	Fawcett - Brown	0.3 kg (5.3%)	75 %	150
Sugar	Invert Sugar	0.5 kg (8.8%)	100 %	0
Grain	Cara Gold Castlemalting	0.25 kg (4.4%)	78 %	120

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	35 g	60 min	9.5 %
Boil	Fuggles	20 g	15 min	4.5 %
Whirlpool	Fuggles	30 g	60 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	250 ml	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	4 g	Boil	5 min