

## BITTER IV

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **30**
- SRM **6.3**
- 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 **90 min**
- Evaporation rate **15 %/h**
- Boil size **28.2 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **20.3 liter(s)**

### Steps

- Temp **55 C**, Time **1 min**
- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Best	4.1 kg (90.9%)	80 %	6
Grain	Carahell Best	0.2 kg (4.4%)	75 %	30
Grain	Caraamber	0.2 kg (4.4%)	75 %	70
Grain	Chocolate Best	0.01 kg (0.2%)	75 %	900

### Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	East Kent Goldings	20 g	60 min	5.7 %
First Wort	East Kent Goldings	20 g	90 min	5.7 %
Boil	East Kent Goldings	10 g	5 min	5.7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 1728 Scottish Ale	Ale	Slant	200 ml	Wyeast Labs

### Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc T	1.25 g	Boil	5 min