

## 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<br>Scottish Ale | Ale  | Slant | 200 ml | Wyeast Labs |

### Extras

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