

BITTER III

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **30**
- SRM **5.9**
- 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 **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 **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 | 4.2 kg (93.1%) | 80 % | 6 |
| Grain | Cara aroma (red) | 0.2 kg (4.4%) | 78 % | 50 |
| Grain | Red X | 0.1 kg (2.2%) | --- % | 30 |
| 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 |
|--------|-------------|--------|------|-------|