

Bitter

- Gravity **11.6 BLG**
- ABV ---
- IBU **33**
- SRM **9.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **43 liter(s)**
- Trub loss **10 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **75 min**
- Evaporation rate **15 %/h**
- Boil size **56.2 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **35 liter(s)**
- Total mash volume **45 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **35 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **31.2 liter(s)** of **76C** water or to achieve **56.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|-------------|--------|-----|
| Grain | Pale Ale | 8 kg (80%) | 80 % | 4 |
| Grain | Wheat, Flaked | 1 kg (10%) | 77 % | 4 |
| Grain | Fawcett - Crystal | 0.5 kg (5%) | 70 % | 160 |
| Grain | Weyermann - Melanoiden Malt | 0.2 kg (2%) | 81 % | 53 |
| Grain | Simpsons - Aromatic Malt | 0.3 kg (3%) | 82.5 % | 49 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------------|--------|--------|------------|
| Boil | Challenger | 80 g | 60 min | 6.5 % |
| Boil | Kent Goldings | 40 g | 10 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------|------|------|--------|-----------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |
| British Ale M07 | Ale | Dry | 10 g | Mangrove Jack's |