

#30 Bitter

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **39**
- SRM **7.2**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **14 %/h**
- Boil size **27.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **17.8 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **79 C**, Time **1 min**

Mash step by step

- Heat up **14.1 liter(s)** of strike water to **69.8C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **79C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **27.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|-----------------|-------|------|
| Grain | Briess - Pale Ale Malt | 3.5 kg (94.1%) | 80 % | 7 |
| Grain | Caramel/Crystal Malt - 40L | 0.2 kg (5.4%) | 74 % | 110 |
| Grain | Carafa III | 0.018 kg (0.5%) | 70 % | 1300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|---------|--------|--------|------------|
| Boil | lunga | 26 g | 60 min | 12 % |
| Whirlpool | Pilgrim | 120 g | 1 min | 8.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------|------|--------|---------|-------------|
| Wyeast - 1318 London Ale III | Ale | Liquid | 1200 ml | Wyeast Labs |
| Starter | | | | |