

Bitter

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **36**
- SRM **7.5**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.4 liter(s)**

Mash information

- Mash efficiency **71.5 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.3 liter(s)**
- Total mash volume **17.7 liter(s)**

Steps

- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **13.3 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **45 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **25.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|--------|-----|
| Grain | Briess - Pale Ale Malt | 4 kg (90.5%) | 80 % | 7 |
| Grain | Caramel/Crystal Malt - 10L | 0.3 kg (6.8%) | 75 % | 20 |
| Grain | Special B Malt | 0.12 kg (2.7%) | 65.2 % | 315 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------------------|--------|--------|------------|
| Boil | East Kent Goldings | 40 g | 60 min | 5.1 % |
| Aroma (end of boil) | East Kent Goldings | 20 g | 20 min | 5.1 % |
| Aroma (end of boil) | East Kent Goldings | 40 g | 5 min | 5.1 % |