

# Bitter

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **38**
- SRM **7.9**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **33.1 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **18.3 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **20.9 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Pale Ale - Crisp            | 3.1 kg (50.8%) | 82 %  | 4.5 |
| Grain | Pilzneński - Viking Malt    | 2 kg (32.8%)   | 81 %  | 4   |
| Grain | Crystal Extra Light - Crisp | 0.6 kg (9.8%)  | 72 %  | 120 |
| Grain | Dextrin Malt - Crisp        | 0.4 kg (6.6%)  | 82 %  | 3   |

## Hops

| Use for | Name    | Amount | Time     | Alpha acid |
|---------|---------|--------|----------|------------|
| Boil    | Chinook | 20 g   | 50 min   | 13 %       |
| Boil    | Cascade | 150 g  | 5 min    | 6 %        |
| Dry Hop | Fuggles | 100 g  | 3 day(s) | 4.5 %      |

## Yeasts

| Name                         | Type | Form | Amount | Laboratory |
|------------------------------|------|------|--------|------------|
| Lallemand LalBrew London ESB | Ale  | Dry  | 11 g   | Ale Yeast  |