

# Pale Ale Bitter

- Gravity **11.7 BLG**
- ABV ---
- IBU **36**
- SRM **9.5**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **29.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.8 liter(s)**

## Steps

- Temp **53 C**, Time **20 min**
- Temp **67 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **13.4 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **20 min** at **53C**
- Keep mash **30 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **20.5 liter(s)** of **76C** water or to achieve **29.4 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt  | 4 kg (89.9%)   | 85 %  | 7   |
| Grain | Cara Crystal Castlemalting | 0.15 kg (3.4%) | 78 %  | 150 |
| Grain | Weyermann - Carapils       | 0.15 kg (3.4%) | 78 %  | 4   |
| Grain | Weyermann - Carawheat      | 0.15 kg (3.4%) | 77 %  | 110 |

## Hops

| Use for             | Name            | Amount | Time     | Alpha acid |
|---------------------|-----------------|--------|----------|------------|
| Boil                | Challenger      | 30 g   | 70 min   | 7 %        |
| Boil                | Styrian Golding | 20 g   | 55 min   | 5 %        |
| Aroma (end of boil) | Styrian Golding | 40 g   | 0 min    | 5 %        |
| Dry Hop             | Minstrel        | 30 g   | 5 day(s) | 4.9 %      |
| Dry Hop             | Epick           | 30 g   | 5 day(s) | 3.7 %      |

## Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

|                                |     |        |        |             |
|--------------------------------|-----|--------|--------|-------------|
| Wyeast - British Ale<br>- 1098 | Ale | Liquid | 125 ml | Wyeast Labs |
|--------------------------------|-----|--------|--------|-------------|

### Extras

| Type   | Name           | Amount | Use for | Time   |
|--------|----------------|--------|---------|--------|
| Fining | Mech irlandzki | 15 g   | Boil    | 15 min |