

# Bitter

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **35**
- SRM **9.5**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **11 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **13.8 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **6.3 liter(s)**
- Total mash volume **8.8 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **6.3 liter(s)** of strike water to **73.9C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **1 min** at **78C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **13.8 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount        | Yield | EBC |
|-------|-----------------------------|---------------|-------|-----|
| Grain | Pale Ale malt               | 1.85 kg (74%) | 80 %  | 5   |
| Grain | Simpsons - Caramalt Premium | 0.2 kg (8%)   | 76 %  | 60  |
| Grain | Simpsons - Caramalt         | 0.2 kg (8%)   | 76 %  | 36  |
| Grain | Simpsons - Crystal Light    | 0.25 kg (10%) | 74 %  | 100 |

## Hops

| Use for | Name     | Amount | Time   | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil    | Magnum   | 10 g   | 40 min | 13 %       |
| Boil    | Amarillo | 25 g   | 5 min  | 8.4 %      |

## Yeasts

| Name                  | Type | Form  | Amount | Laboratory       |
|-----------------------|------|-------|--------|------------------|
| FM11 Wichrowe Wzgórza | Ale  | Slant | 50 ml  | Fermentum Mobile |

## Extras

| Type   | Name           | Amount | Use for | Time   |
|--------|----------------|--------|---------|--------|
| Fining | Mech Irlandzki | 2 g    | Boil    | 10 min |