

# bitter

- Gravity **10 BLG**
- ABV **4 %**
- IBU **36**
- SRM **7.9**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.1 liter(s)**

## Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **4.6 liter(s)**
- Total mash volume **6.5 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**

## Mash step by step

- Heat up **4.6 liter(s)** of strike water to **77.7C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **9.4 liter(s)** of **76C** water or to achieve **12.1 liter(s)** of wort

## Fermentables

| Type  | Name                      | Amount         | Yield  | EBC |
|-------|---------------------------|----------------|--------|-----|
| Grain | BESTMALZ - Bestt Pale Ale | 1.5 kg (81.1%) | 80.5 % | 6   |
| Grain | Pszeniczny                | 0.1 kg (5.4%)  | 85 %   | 4   |
| Grain | Abbey Malt Weyermann      | 0.15 kg (8.1%) | 75 %   | 45  |
| Grain | Fawcett - Dark Crystal    | 0.1 kg (5.4%)  | 71 %   | 210 |

## Hops

| Use for    | Name               | Amount | Time   | Alpha acid |
|------------|--------------------|--------|--------|------------|
| First Wort | Magnum             | 10 g   | 60 min | 6.4 %      |
| Boil       | Fuggles            | 4 g    | 60 min | 6.1 %      |
| Boil       | East Kent Goldings | 10 g   | 15 min | 5.1 %      |
| Boil       | Fuggles            | 10 g   | 15 min | 6.1 %      |
| Boil       | Fuggles            | 10 g   | 0 min  | 6.1 %      |
| Boil       | East Kent Goldings | 10 g   | 0 min  | 5.1 %      |

## Yeasts

| Name                       | Type | Form  | Amount | Laboratory       |
|----------------------------|------|-------|--------|------------------|
| FM10 O czym szumią wierzby | Ale  | Slant | 100 ml | Fermentum Mobile |