

## Bitter v3

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **27**
- SRM **14.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **12.5 liter(s)**
- Trub loss **4 %**
- Size with trub loss **13 liter(s)**
- Boil time **75 min**
- Evaporation rate **20 %/h**
- Boil size **16.8 liter(s)**

### Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3.9 liter(s) / kg**
- Mash size **10.9 liter(s)**
- Total mash volume **13.7 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **10.9 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **8.7 liter(s)** of **76C** water or to achieve **16.8 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield | EBC  |
|-------|-----------------------------|----------------|-------|------|
| Grain | Strzegom Pale Ale           | 2.5 kg (89.3%) | 79 %  | 6    |
| Grain | Fawcett - Crystal           | 0.25 kg (8.9%) | 70 %  | 160  |
| Grain | Strzegom Czekoladowy ciemny | 0.05 kg (1.8%) | 68 %  | 1200 |

### Hops

| Use for | Name            | Amount | Time   | Alpha acid |
|---------|-----------------|--------|--------|------------|
| Boil    | Challenger      | 20 g   | 30 min | 7 %        |
| Boil    | Styrian Golding | 20 g   | 15 min | 3.6 %      |

### Yeasts

| Name                 | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale  | Dry  | 11.5 g | Danstar    |

### Extras

| Type        | Name            | Amount | Use for  | Time   |
|-------------|-----------------|--------|----------|--------|
| Water Agent | gips piwowarski | 2 g    | Mash     | 60 min |
| Water Agent | Witamina C      | 2 g    | Bottling | ---    |

|        |                |     |      |        |
|--------|----------------|-----|------|--------|
| Fining | Mech irlandzki | 4 g | Boil | 15 min |
|--------|----------------|-----|------|--------|