

## Bitter v2

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **49**
- 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 **3.3 liter(s) / kg**
- Mash size **9.2 liter(s)**
- Total mash volume **12 liter(s)**

### Steps

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

### Mash step by step

- Heat up **9.2 liter(s)** of strike water to **73C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **10.4 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    | Chinook PL         | 20 g   | 60 min | 9.1 %      |
| Boil    | East Kent Goldings | 30 g   | 15 min | 5.1 %      |

### Yeasts

| Name                 | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale  | Dry  | 5 g    | Danstar    |

### Extras

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