

## 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
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