

## #11- Bitter

---

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **85**
- SRM **6.2**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.3 liter(s)**
- Total mash volume **20.4 liter(s)**

### Steps

- Temp **63 C**, Time **45 min**
- Temp **73 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **15.3 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **73C**
- Keep mash **0 min** at **78C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (78.4%)	79 %	6
Grain	Strzegom Monachijski typ II	1 kg (19.6%)	79 %	22
Grain	Biscuit Malt - cookie	0.1 kg (2%)	79 %	45

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	60 g	60 min	11.2 %
Boil	Styrian Bobek	30 g	5 min	5.9 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Fermentis