

# Bitter

- Gravity **10.2 BLG**
- ABV ---
- IBU **43**
- SRM **11.9**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **13.6 liter(s)**
- Total mash volume **17.6 liter(s)**

## Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **74 C**, Time **5 min**

## Mash step by step

- Heat up **13.6 liter(s)** of strike water to **70.5C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **74C**
- Sparge using **18.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	2 kg (50%)	80 %	4
Grain	Strzegom Pilzneński	1 kg (25%)	80 %	4
Grain	Pszeniczny	0.5 kg (12.5%)	85 %	4
Grain	zakwaszający	0.1 kg (2.5%)	80 %	4
Grain	Special X Bestmalz	0.4 kg (10%)	75 %	350

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Summit	25 g	60 min	14 %
Aroma (end of boil)	Ahtanum	30 g	5 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05 01.01.2018r	Ale	Dry	11 g	---

## Extras

Type	Name	Amount	Use for	Time
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Fining	Mech irlandzki	5 g	Boil	5 min
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