

# Bitter

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **34**
- SRM **7.7**
- Style **Standard/Ordinary Bitter**

## 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 **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **15.8 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3.6 kg (91.1%)	79 %	6
Grain	Strzegom Karmel 150	0.35 kg (8.9%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	40 g	60 min	4.5 %
Boil	Fuggles	20 g	30 min	4.5 %
Boil	Fuggles	15 g	10 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips piwowarski	5 g	Mash	60 min
Fining	Mech irlandzki	5 g	Boil	10 min