

# Bitter

- Gravity **8.8 BLG**
- ABV ---
- IBU **33**
- SRM **14**
- Style **Standard/Ordinary Bitter**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

## Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **12 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **23.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (75%)	81 %	4
Grain	Pszeniczny	0.5 kg (12.5%)	85 %	4
Grain	Caraaroma	0.25 kg (6.3%)	78 %	400
Grain	Strzegom Czekoladowy jasny	0.25 kg (6.3%)	68 %	400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	12.7 %
Boil	Lublin (Lubelski)	25 g	15 min	3.5 %
Boil	Lublin (Lubelski)	25 g	0 min	3.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	150 ml	Fermentis

## Extras

Type	Name	Amount	Use for	Time
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Fining	Irish Moss	5 g	Boil	15 min
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