

# Bitter

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **34**
- SRM **10.6**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.8 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **67 C**, Time **90 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **71.7C**
- Add grains
- Keep mash **90 min** at **67C**
- Sparge using **2.6 liter(s)** of **76C** water or to achieve **15.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.5 kg (75.8%)	80 %	5
Grain	Strzegom Karmel 150	0.2 kg (6.1%)	75 %	150
Grain	Weyermann - Caraamber	0.5 kg (15.2%)	75 %	65
Grain	Pszeniczny	0.1 kg (3%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	10 %
Boil	East Kent Goldings	15 g	15 min	5.1 %
Boil	East Kent Goldings	10 g	1 min	5.1 %
Dry Hop	East Kent Goldings	10 g	3 day(s)	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	6.27 g	Safale