

# Bitter#1

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **32**
- SRM **9.6**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

## Steps

- Temp **67 C**, Time **70 min**
- Temp **76 C**, Time **0 min**

## Mash step by step

- Heat up **16.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **0 min** at **76C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3.5 kg (73.7%)	80 %	7
Grain	Pszeniczny	0.3 kg (6.3%)	85 %	4
Grain	Biscuit Malt	0.5 kg (10.5%)	79 %	45
Grain	Strzegom Karmel 150	0.45 kg (9.5%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	20 g	60 min	4.5 %
Boil	East Kent Goldings	20 g	60 min	5.1 %
Boil	Fuggles	15 g	30 min	4.5 %
Boil	East Kent Goldings	15 g	30 min	5.1 %
Aroma (end of boil)	Fuggles	15 g	0 min	4.5 %
Aroma (end of boil)	East Kent Goldings	15 g	0 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
s - 04	Ale	Dry	11.5 g	safale

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips piwowarski	4 g	Mash	70 min
Fining	mech irlandzki	5 g	Boil	15 min