

# Bitter

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **38**
- SRM **5.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## 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 **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

## Steps

- Temp **67 C**, Time **70 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **19.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **10 min** at **76C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (76.9%)	80 %	5
Grain	Pszeniczny	0.5 kg (7.7%)	85 %	4
Grain	Carahell	0.5 kg (7.7%)	77 %	26
Grain	Strzegom Monachijski typ I	0.5 kg (7.7%)	79 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Boil	East Kent Goldings	30 g	15 min	5.1 %
Aroma (end of boil)	East Kent Goldings	20 g	5 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	6 g	Boil	60 min

Water Agent	gips	5 g	Mash	60 min
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