

# Bitter

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **61**
- SRM **8**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## 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 **33.1 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

## Steps

- Temp **66 C**, Time **70 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **66C**
- Sparge using **19.1 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.5 kg (64.3%)	80 %	4
Grain	Strzegom Monachijski typ II	1.5 kg (21.4%)	79 %	22
Grain	Weyermann - Carared	1 kg (14.3%)	75 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Mash	Cascade PL	100 g	30 min	5 %
Boil	Chinook PL	20 g	60 min	8 %
Boil	Cascade PL	50 g	30 min	5 %
Aroma (end of boil)	Cascade PL	150 g	15 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Lallemand LalBrew London ESB	Ale	Slant	350 ml	---