

# Bitter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **19**
- SRM **4.7**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **3 %**
- Size with trub loss **27 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **31.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **19.6 liter(s)** of **76C** water or to achieve **31.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	4 kg (66.7%)	85 %	7
Grain	Weyermann - Pilsner Malt	1 kg (16.7%)	81 %	5
Grain	Strzegom Monachijski typ I	0.3 kg (5%)	79 %	16
Grain	płatki jęczmienne	0.2 kg (3.3%)	60 %	4
Grain	Weyermann - Carapils	0.5 kg (8.3%)	78 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	20 g	60 min	5.1 %
Aroma (end of boil)	Fuggles	50 g	15 min	4.5 %
Aroma (end of boil)	East Kent Goldings	30 g	0 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	200 ml	Fermentis