

# Bitter

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **28**
- SRM **3.9**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **28.5 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **17.5 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński lager Malteurop	4.5 kg (90%)	80 %	4
Grain	Carahell	0.3 kg (6%)	77 %	26
Grain	Płatki owsiane opiekane	0.2 kg (4%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	60 min	10 %
Boil	East Kent Goldings	15 g	15 min	5.1 %
Whirlpool	East Kent Goldings	15 g	0 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP004 - Irish Ale Yeast	Ale	Liquid	1000 ml	White Labs

## Extras

Type	Name	Amount	Use for	Time
Fining	whirlfloc t	0.5 g	Boil	10 min