

# Bitter

- Gravity **11.7 BLG**
- ABV ---
- IBU **45**
- SRM **13**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## 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 **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.4 liter(s)**
- Total mash volume **16.5 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **12.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **20.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3.5 kg (77.3%)	--- %	---
Adjunct	Briess - Barley Flakes	0.4 kg (8.8%)	70 %	3
Grain	Biscuit Malt	0.15 kg (3.3%)	79 %	45
Grain	Strzegom Karmel 150	0.15 kg (3.3%)	75 %	150
Grain	Strzegom Karmel 300	0.15 kg (3.3%)	70 %	299
Grain	Weyermann - Carared	0.15 kg (3.3%)	75 %	45
Grain	Jęczmień palony	0.03 kg (0.7%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	First Gold	30 g	60 min	7.5 %
Boil	Sybilla	20 g	60 min	5 %
Boil	First Gold	20 g	10 min	7.5 %
Boil	Sybilla	20 g	10 min	3.5 %
Boil	First Gold	20 g	1 min	7.5 %
Boil	Sybilla	20 g	1 min	3.5 %

Dry Hop	First Gold	20 g	7 day(s)	7.5 %
Dry Hop	Sybilla	20 g	7 day(s)	3.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	11 g	Danstar

### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min
Water Agent	gips piwowarski	5 g	Mash	---