

# Urodzinowy bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **22**
- SRM **5.7**
- Style **Standard/Ordinary Bitter**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.4 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **68 C**, Time **666 min**

## Mash step by step

- Heat up **15.4 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **666 min** at **68C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **31.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4.1 kg (93%)	79 %	6
Grain	Cookie Viking Malt	0.154 kg (3.5%)	72 %	50
Grain	Strzegom Karmel 150	0.154 kg (3.5%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	25 g	50 min	4.3 %
Boil	Sybilla	20 g	30 min	4.3 %
Boil	Sybilla	30 g	10 min	4.3 %
Boil	Sybilla	10 g	2 min	4.3 %
Aroma (end of boil)	Fuggles	5 g	2 min	3.9 %
Aroma (end of boil)	Cascade	10 g	2 min	6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
London English-style (ESB)	Ale	Dry	11 g	Lallemand

## Extras

Type	Name	Amount	Use for	Time
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Water Agent	gips	5 g	Mash	666 min
Fining	whirlfloc t	2.37 g	Boil	15 min
Other	pożywka do drożdży	5 g	Boil	20 min