

# Blachówkowy bitter

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **25**
- SRM **8.7**
- 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 **11 %/h**
- Boil size **29.3 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **24.5 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **19.6 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **29.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep@ale	3.5 kg (71.4%)	81 %	8.5
Grain	Pszeniczny	0.5 kg (10.2%)	85 %	4
Grain	Karmelowy Jasny 30EBC	0.3 kg (6.1%)	75 %	30
Grain	Płatki owsiane	0.5 kg (10.2%)	85 %	3
Grain	Strzegom Karmel 600	0.1 kg (2%)	68 %	601

## Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Amarillo	20 g	60 min	8.2 %
Boil	Hallertau	30 g	15 min	2 %
Boil	Hallertau	30 g	10 min	2 %
Boil	Hallertau	30 g	5 min	2 %
Whirlpool	Hallertau	30 g	30 min	2 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Dry	11 g	Safale
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