

później

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **54**
- SRM **20.1**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11 liter(s)**
- Total mash volume **14.6 liter(s)**

Steps

- Temp **61 C**, Time **60 min**
- Temp **70 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **11 liter(s)** of strike water to **67.8C**
- Add grains
- Keep mash **60 min** at **61C**
- Keep mash **20 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	2.5 kg (68.5%)	81 %	6
Grain	crystal wheat	0.25 kg (6.8%)	80 %	60
Grain	Pszeniczny	0.25 kg (6.8%)	85 %	4
Grain	Briess - Black Malt	0.25 kg (6.8%)	55 %	600
Grain	Płatki owsiane	0.2 kg (5.5%)	60 %	3
Grain	Płatki jęczmienne	0.2 kg (5.5%)	60 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Nelson Sauvín	20 g	60 min	11 %
Boil	Nelson Sauvín	10 g	30 min	11 %
Boil	Nelson Sauvín	5 g	15 min	11 %
Aroma (end of boil)	Nelson Sauvín	15 g	0 min	11 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-33	Ale	Slant	200 ml	Fermentis