

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **83**
- SRM **29.7**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.8 liter(s)**
- Total mash volume **26.4 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **62 C**, Time **60 min**
- Temp **71 C**, Time **25 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **19.8 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **60 min** at **62C**
- Keep mash **25 min** at **71C**
- Keep mash **10 min** at **76C**
- Sparge using **12.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	5 kg (75.8%)	80 %	7
Grain	Karmelowy Jasny 30EBC	0.4 kg (6.1%)	75 %	30
Grain	Czekoladowy	0.3 kg (4.5%)	60 %	788
Grain	Carafa special I	0.2 kg (3%)	70 %	900
Grain	Płatki owsiane	0.3 kg (4.5%)	85 %	3
Grain	Jęczmień palony	0.1 kg (1.5%)	20 %	985
Grain	Strzegom Wiedeński	0.3 kg (4.5%)	79 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Bravo	25 g	60 min	15.5 %
Boil	Bravo	25 g	10 min	15.5 %
Dry Hop	Cascade	150 g	5 day(s)	6 %
Whirlpool	Cascade	75 g	30 min	6 %
Whirlpool	Saaz (Czech Republic)	25 g	30 min	4.5 %

Whirlpool	Mosaic	30 g	30 min	10 %
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Notes

- Słody Czekoladowy i Carafa specjal I dodać na mash out
Palony jęczmień zalać wodą w stosunku 3:1 na 24h i dodać przy wysładzaniu w stosunku
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