

Black IPA

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **71**
- SRM **32.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **27.4 liter(s)**
- Total mash volume **34.3 liter(s)**

Steps

- Temp **69 C**, Time **60 min**
- Temp **67 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **27.4 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **15 min** at **67C**
- Keep mash **60 min** at **69C**
- Keep mash **10 min** at **78C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	5.75 kg (83.9%)	80 %	7
Grain	Strzegom Czekoladowy 400	0.5 kg (7.3%)	68 %	400
Grain	Briess - Chocolate Malt	0.35 kg (5.1%)	60 %	690
Grain	Carafa II	0.25 kg (3.6%)	70 %	812

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Bravo	30 g	60 min	15.5 %
Aroma (end of boil)	Dr Rudi	30 g	20 min	11.8 %
Aroma (end of boil)	Cascade	18 g	15 min	6 %
Aroma (end of boil)	Cascade	18 g	5 min	6 %
Aroma (end of boil)	Cascade	26 g	1 min	6 %
Dry Hop	Cascade	40 g	7 day(s)	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
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FM50 Kłosy Kansas	Ale	Slant	200 ml	---
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