

Czarnobeer

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **75**
- SRM **39.2**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **16.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **18.8 liter(s)**

Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **14.1 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **16.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.2 kg (68.1%)	80 %	5
Grain	Strzegom Wiedeński	0.5 kg (10.6%)	79 %	10
Grain	Viking Wheat Malt	0.3 kg (6.4%)	83 %	5
Grain	Karmelowy Jasny 30EBC	0.3 kg (6.4%)	75 %	30
Grain	carafa 3 special	0.4 kg (8.5%)	68 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	50 g	70 min	7.1 %
Boil	Amarillo	20 g	20 min	7.1 %
Aroma (end of boil)	Amarillo	20 g	0 min	7.1 %
Whirlpool	Amarillo	50 g	10 min	7.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
fm 52	Ale	Liquid	30 ml	---

Notes

- cold brew z carafy na 6h
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