

Czarna sosna

- Gravity **14.4 BLG**
- ABV ---
- IBU **87**
- SRM **31**
- 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 **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

Steps

- Temp **68 C**, Time **100 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **17.4 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **100 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **13.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5 kg (86.2%)	85 %	7
Grain	Weyermann pszeniczny jasny	0.5 kg (8.6%)	80 %	6
Grain	Weyermann - Dehusked Carafa III	0.3 kg (5.2%)	70 %	1024

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Nugget	45 g	60 min	13 %
Boil	Rakau (NZ)	30 g	10 min	9.5 %
Aroma (end of boil)	Simcoe	30 g	5 min	13 %
Whirlpool	Mosaic	30 g	120 min	10 %
Dry Hop	Rakau (NZ)	30 g	7 day(s)	9.5 %
Dry Hop	Palisade	30 g	3 day(s)	7.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Safale US-05	Ale	Dry	11.5 g	Fermentis
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