

Abies alba

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **61**
- SRM **32.1**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **79 %**
- Liquor-to-grist ratio **2.75 liter(s) / kg**
- Mash size **17.9 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **63 C**, Time **45 min**
- Temp **69 C**, Time **15 min**

Mash step by step

- Heat up **17.9 liter(s)** of strike water to **70.8C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **69C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Dehusked Carafa III	0.5 kg (7.7%)	70 %	1024
Grain	Słód Caramunich Typ II Weyermann	1 kg (15.4%)	73 %	120
Grain	Colorado pale base	5 kg (76.9%)	79 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Polaris	10 g	60 min	20.8 %
Boil	Simcoe	25 g	60 min	13.1 %
Aroma (end of boil)	mosaic	10 g	20 min	12 %
Aroma (end of boil)	Mosaic	20 g	5 min	12 %
Whirlpool	Simcoe	30 g	---	13.1 %
Whirlpool	Mosaic	20 g	---	12 %
Dry Hop	Simcoe	45 g	3 day(s)	13.2 %
Dry Hop	Mosaic	25 g	3 day(s)	12 %

Yeasts

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

Type	Name	Amount	Use for	Time
Flavor	Jodła - gałęzie	24 g	Boil	30 min
Flavor	Jodła - gałęzie	10 g	Bottling	---
"herbatka jodłowa"				