

Black Bolt - Imperial Cascadian Pale Ale

- Gravity **22.7 BLG**
- ABV **10.3 %**
- IBU **115**
- SRM **60.2**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **13.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16.8 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **20 min** at **72C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **13.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.5 kg (72.9%)	85 %	7
Grain	Pszeniczny	0.5 kg (10.4%)	85 %	4
Grain	Weyermann - Dehusked Carafa III	0.5 kg (10.4%)	70 %	1024
Grain	Jęczmień palony	0.3 kg (6.3%)	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	40 g	60 min	13.5 %
Boil	Citra	20 g	20 min	13.5 %
Aroma (end of boil)	Cascade	30 g	1 min	7.1 %
Whirlpool	Cascade	30 g	45 min	7.1 %
Dry Hop	Citra	40 g	3 day(s)	13.5 %
Dry Hop	Cascade	40 g	3 day(s)	7.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	200 ml	---