

Black IPA

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **41**
- SRM **19.7**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **1 %**
- Size with trub loss **25.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **1 %/h**
- Boil size **26.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **25.4 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **20.1 liter(s)** of strike water to **68.7C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.4 kg (83%)	81 %	4
Grain	Karmelowy Jasny 30EBC	0.5 kg (9.4%)	75 %	30
Grain	Czekoladowy	0.4 kg (7.5%)	60 %	788

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	15.5 %
Boil	Centennial	25 g	30 min	10.5 %
Boil	Simcoe	25 g	5 min	13.2 %
Dry Hop	Centennial	25 g	5 day(s)	10.5 %
Dry Hop	Simcoe	25 g	5 day(s)	13.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis