Black IPA

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **70**
- SRM **38.9**
- 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 **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **29.7 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **23.1 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	4.5 kg *(68.2%)*	82 %	4
Grain	Weyermann - Pale Ale Malt	1 kg *(15.2%)*	85 %	7
Grain	Carafa II	0.3 kg *(4.5%)*	70 %	812
Grain	Strzegom Czekoladowy ciemny	0.3 kg *(4.5%)*	68 %	1200
Grain	Jęczmień palony	0.2 kg *(3%)*	55 %	985
Do 72 st				
Grain	Karmelowy Czerwony	0.3 kg *(4.5%)*	75 %	59

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	30 g	50 min	14.5 %
Boil	Amarillo	20 g	25 min	9.8 %
Aroma (end of boil)	Ahtanum	20 g	15 min	3.6 %
Aroma (end of boil)	Citra	20 g	5 min	13.1 %
Aroma (end of boil)	Falconer's Flight	20 g	5 min	10.3 %

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Whirlpool	Falconer's Flight	20 g	20 min	10.3 %
Dry Hop	Simcoe	40 g	4 day(s)	14.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	200 ml	Fermentum Mobile