

## 31# Black IPA

- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **68**
- SRM **34.3**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **5 %/h**
- Boil size **24.5 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23 liter(s)**
- Total mash volume **30.6 liter(s)**

### Steps

- Temp **64 C**, Time **90 min**
- Temp **77 C**, Time **10 min**

### Mash step by step

- Heat up **23 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **90 min** at **64C**
- Keep mash **10 min** at **77C**
- Sparge using **9.2 liter(s)** of **76C** water or to achieve **24.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5.75 kg (75.2%)	80 %	5
Grain	Monachijski typ II 20-25 EBC Weyermann	0.5 kg (6.5%)	80 %	20
Grain	Carafa II	0.3 kg (3.9%)	70 %	812
Grain	Strzegom Karmel 150	0.2 kg (2.6%)	75 %	150
Grain	Strzegom pszenica prażona	0.2 kg (2.6%)	70 %	1000
Grain	Płatki pszeniczne	0.4 kg (5.2%)	60 %	3
Grain	Płatki owsiane	0.15 kg (2%)	60 %	3
Grain	Strzegom Czekoladowy ciemny	0.15 kg (2%)	68 %	1200

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	18 g	90 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	17 g	60 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	15 g	20 min	15.5 %
Boil	Cascade	20 g	5 min	6 %

Boil	Centennial	20 g	1 min	10.5 %
Dry Hop	Ahtanum	25 g	7 day(s)	5 %
Dry Hop	Cascade	20 g	5 day(s)	6 %
Dry Hop	Centennial	10 g	4 day(s)	10.5 %
Dry Hop	Simcoe	20 g	3 day(s)	13.2 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - BRY-97	Ale	Slant	150 ml	Danstar