

## Black IPA 3

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- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **76**
- SRM **19.7**
- 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 **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Carahell	0.25 kg (5%)	77 %	26
Grain	Pilznieński	4 kg (80%)	81 %	4
Grain	carafa special II	0.25 kg (5%)	75 %	1150
Sugar	cukier kandyzowany ciemny	0.5 kg (10%)	100 %	0

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	10 %
Boil	Cascade	25 g	45 min	6 %
Boil	Cascade	25 g	1 min	6 %
Dry Hop	Cascade	50 g	4 day(s)	6 %
Boil	Willamette	25 g	15 min	5 %
Dry Hop	Willamette	75 g	4 day(s)	5 %
Boil	Equinox	25 g	1 min	13.1 %
Dry Hop	Equinox	50 g	4 day(s)	13.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	5.5 g	Fermentis

## Notes

- Zacieranie:  
Zacieramy jedynie jasne słydy. Suchą Carafe II dodajemy po zatarciu, do wysładzania.

Gotowanie:  
Cukier dodajemy w ostatniej minucie.

Ferm. burz. 7 dni w temp. 18-20 C.  
Ferm. cicha 10 dni w temp. 14-16 C, na ostatnie 4 dni chmiel.  
Refermentacja 14 dni w temp. 19-21 C.  
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