

# Black IPA

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **43**
- SRM **21.3**
- 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 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **15.9 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.4 kg (83%)	80 %	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	14.4 %
Boil	Centennial	25 g	30 min	9.7 %
Boil	Simcoe	25 g	5 min	13.2 %
Dry Hop	Centennial	25 g	5 day(s)	9.7 %
Dry Hop	Simcoe	25 g	5 day(s)	13.2 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis