

# Black IPA

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **30**
- SRM **20.7**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.7 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **28.5 liter(s)**

## Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.9 liter(s)**

## Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **70.5C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.3 kg (56.1%)	80 %	4
Grain	Viking Wheat Malt	1 kg (17%)	83 %	5
Grain	Wędzony bukiem Viking Malt	0.5 kg (8.5%)	82 %	10
Grain	Jęczmień niesłodowany	0.53 kg (9%)	75 %	2
Grain	Strzegom Karmel 30	0.3 kg (5.1%)	75 %	30
Grain	Strzegom Barwiący	0.25 kg (4.3%)	68 %	1300

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	14.5 %
Whirlpool	Amarillo	30 g	0 min	8.9 %
Whirlpool	Cascade PL	42 g	0 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min
Water Agent	gips piwowarski	5 g	Mash	60 min
Other	pulpa mango	1700 g	Secondary	7 day(s)
Herb	liście kaffir	5 g	Bottling	---