

# BLACK

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **22**
- SRM **26.8**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

## Steps

- Temp **55 C**, Time **12 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **12 min** at **55C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6 kg (85.7%)	80 %	5
Grain	Strzegom Karmel 300	0.3 kg (4.3%)	70 %	299
Grain	Karmelowy Jasny 30EBC	0.3 kg (4.3%)	75 %	30
Grain	Carafa III	0.4 kg (5.7%)	70 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	16 g	60 min	15.5 %
Whirlpool	Cascade	45 g	1 min	7.1 %
Whirlpool	Centennial	45 g	1 min	9.4 %
Whirlpool	Simcoe	45 g	1 min	13.2 %
Dry Hop	Cascade	40 g	4 day(s)	7.1 %
Dry Hop	Centennial	40 g	4 day(s)	9.4 %
Dry Hop	Simcoe	40 g	4 day(s)	13.2 %

## Yeasts

Name	Type	Form	Amount	Laboratory
mauribrew Draught	Ale	Dry	15 g	Mauribrew