

Black Attack

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **66**
- SRM **22.8**
- 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 **15 %/h**
- Boil size **27.6 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 **50 C**, Time **10 min**
- Temp **64 C**, Time **40 min**
- Temp **68 C**, Time **30 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **10 min** at **50C**
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **68C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	4.5 kg (84.9%)	82 %	4
Grain	Carabody Viking Malt	0.3 kg (5.7%)	78 %	6
Grain	Dextrin - Crisp	0.2 kg (3.8%)	82 %	2.8
Grain	Jęczmień palony - Weyermann	0.2 kg (3.8%)	70 %	1200
Grain	Carafa typ III - Weyermann	0.1 kg (1.9%)	70 %	1400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus	15 g	60 min	15.4 %
Boil	Simcoe	25 g	30 min	12.8 %
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Aroma (end of boil)	Wai-iti	50 g	0 min	2.5 %
Dry Hop	Strata	50 g	3 day(s)	14.5 %
Dry Hop	Simcoe	50 g	3 day(s)	12.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	11 g	Danstar