

black

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **54**
- SRM **32.3**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.2 liter(s)**
- Total mash volume **26 liter(s)**

Steps

- Temp **66 C**, Time **65 min**

Mash step by step

- Heat up **20.2 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **65 min** at **66C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (86.7%)	80 %	5
Grain	Caramel/Crystal Malt - 60L	0.2 kg (3.5%)	74 %	145
Grain	Acid Malt	0.07 kg (1.2%)	58.7 %	6
Grain	Carafa III	0.5 kg (8.7%)	70 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	30 g	60 min	11.7 %
Boil	Cascade	30 g	15 min	8 %
Boil	Cascade	35 g	5 min	8 %
Boil	Cascade	35 g	1 min	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis