

Black ipa

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **42**
- SRM **22.5**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

Steps

- Temp **60 C**, Time **10 min**
- Temp **66 C**, Time **40 min**
- Temp **72 C**, Time **10 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **66.7C**
- Add grains
- Keep mash **10 min** at **60C**
- Keep mash **40 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **77C**
- Sparge using **19.2 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (53.6%)	80 %	5
Grain	Strzegom Wiedeński	1 kg (17.9%)	79 %	10
Grain	Pszeniczny	0.6 kg (10.7%)	85 %	4
Grain	Caramel/Crystal Malt - 20L	0.5 kg (8.9%)	75 %	39
Grain	Carafa II	0.5 kg (8.9%)	70 %	812

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	30 g	60 min	13.2 %
Boil	Simcoe	10 g	10 min	13.2 %
Aroma (end of boil)	Simcoe	20 g	0 min	13.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Fm52	Ale	Slant	150 ml	Fermentum Mobile