

black ale

- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **24**
- SRM **19.4**
- 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 **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **17.2 liter(s)**
- Total mash volume **21.5 liter(s)**

Steps

- Temp **69 C**, Time **90 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **17.2 liter(s)** of strike water to **75.1C**
- Add grains
- Keep mash **90 min** at **69C**
- Keep mash **15 min** at **78C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (69.8%)	81 %	4
Grain	Fawcett - Pszeniczny Czekoladowy	0.3 kg (7%)	73 %	1001
Grain	Carafa III	0 kg	70 %	1034
Grain	Płatki owsiane	0.5 kg (11.6%)	85 %	3
Grain	Barley, Flaked	0.5 kg (11.6%)	70 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	u3 rpa	25 g	5 min	17.9 %
Aroma (end of boil)	u1 rpa	25 g	5 min	17.7 %
Aroma (end of boil)	xja rpa	25 g	2 min	15.2 %
Aroma (end of boil)	u3 rpa	25 g	0 min	17.9 %
Aroma (end of boil)	u1 rpa	25 g	0 min	17.7 %
Dry Hop	u3 rpa	50 g	5 day(s)	17.9 %
Dry Hop	xja rpa	25 g	5 day(s)	15.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	10 g	Fermentis