

Black PIA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **40**
- SRM **20.9**
- 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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	3.2 kg (64%)	81 %	6
Grain	Weyermann pszeniczny jasny	0.8 kg (16%)	80 %	6
Grain	Płatki owsiane	0.3 kg (6%)	85 %	3
Grain	Płatki pszeniczne	0.3 kg (6%)	85 %	3
Grain	Fawcett - Pale Chocolate	0.2 kg (4%)	71 %	600
Grain	Carafa III	0.2 kg (4%)	70 %	1034

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Galaxy	12 g	60 min	15 %
Whirlpool	Galaxy	20 g	30 min	15 %
Whirlpool	Motueka	30 g	30 min	7 %
Dry Hop	Galaxy	18 g	1 day(s)	15 %
Dry Hop	WAI-ITI	50 g	1 day(s)	4.1 %
Dry Hop	Motueka	20 g	1 day(s)	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	22 g	Fermentis