BIPA

- Gravity **17.1 BLG**
- ABV **7.3 %**
- IBU **91**
- SRM **43.7**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **23.8 liter(s)**
- Total mash volume **31 liter(s)**

Steps

- Temp **67 C**, Time **65 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **23.8 liter(s)** of strike water to **74.1C**
- Add grains
- Keep mash **65 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **7.5 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Bestt Pale Ale	3.5 kg *(48.6%)*	80.5 %	6
Grain	Pszeniczny	1 kg *(13.9%)*	85 %	4
Grain	Pilzneński	1 kg *(13.9%)*	81 %	4
Grain	Płatki owsiane	0.5 kg *(6.9%)*	60 %	3
Grain	Fawcett - Pszeniczny Czekoladowy	0.5 kg *(6.9%)*	73 %	1001
Grain	Caramunich® typ I	0.25 kg *(3.5%)*	73 %	80
Grain	Carafa II	0.25 kg *(3.5%)*	70 %	812
Grain	Jęczmień palony	0.2 kg *(2.8%)*	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	15.5 %
Boil	Citra	25 g	5 min	12 %
Boil	Columbus/Tomahawk/Zeus	25 g	5 min	15.5 %
Boil	Falconer's Flight	20 g	5 min	10.5 %

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Aroma (end of boil)	Falconer's Flight	30 g	20 min	10.5 %
Aroma (end of boil)	Citra	25 g	20 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M12 Voss Kveik	Ale	Dry	20 g	Mangrove Jack's

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	5 g	Mash	---