

Trotyl

- Gravity **13.9 BLG**
- ABV ---
- IBU **94**
- SRM **38.4**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **24.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Sparge using **10.8 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ II	3 kg (54.5%)	79 %	22
Grain	Briess - Dark Chocolate Malt	0.5 kg (9.1%)	60 %	827
Grain	Briess - Midnight Wheat Malt	2 kg (36.4%)	80 %	7

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	60 min	13.5 %
Boil	Challenger	20 g	30 min	7 %
Boil	Cascade	20 g	20 min	6 %
Boil	Amarillo	20 g	50 min	9.5 %
Boil	Sybilla	20 g	10 min	3.5 %
Boil	Marynka	20 g	40 min	10 %
Dry Hop	Citra	40 g	7 day(s)	12 %
Boil	Columbus/Tomahawk/Zeus	10 g	70 min	15.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis