

# Czarna Perła

- Gravity **19.5 BLG**
- ABV ---
- IBU **118**
- SRM **30.6**
- 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 **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.9 liter(s)**
- Total mash volume **29.2 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **75 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **21.9 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **75C**
- Keep mash **0 min** at **78C**
- Sparge using **10.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (68.5%)	79 %	6
Grain	Strzegom Wiedeński	1 kg (13.7%)	79 %	10
Grain	Carafa III	0.3 kg (4.1%)	70 %	1034
Grain	Weyermann pszeniczny jasny	0.5 kg (6.8%)	80 %	6
Grain	Briess - Carapils Malt	0.5 kg (6.8%)	74 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	40 g	60 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	20 g	40 min	15.5 %
Boil	Jarrylo	50 g	20 min	15 %
Whirlpool	Jarrylo	40 g	60 min	15 %
Whirlpool	Mosaic	100 g	120 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	22 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips piwowarski	5 g	Mash	70 min
Fining	mech irlandzki	5 g	Boil	15 min