

## czarne

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- Gravity **15.6 BLG**
- ABV ---
- IBU **57**
- SRM **40**
- 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 **15 %/h**
- Boil size **25.9 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **17.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3 kg (51.7%)	79 %	6
Grain	Strzegom Monachijski typ II	2 kg (34.5%)	79 %	22
Grain	Caramunich Malt	0.3 kg (5.2%)	71.7 %	110
Grain	Strzegom Czekoladowy ciemny	0.3 kg (5.2%)	68 %	1200
Grain	Strzegom Barwiący	0.2 kg (3.4%)	68 %	1300

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	17 g	60 min	10 %
Boil	Challenger	24 g	60 min	7 %
Boil	Perle	27 g	35 min	7 %
Boil	Perle	15 g	20 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	400 ml	Safale

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	5 min

## Notes

- Słody ciemne (czekoladowy i barwiący) wsypać w 45 minucie zacierania  
*Nov 8, 2015, 10:42 AM*