

# Czorne

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **30**
- SRM **39.9**
- Style **Oatmeal Stout**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.5 liter(s)**
- Total mash volume **20.6 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **15.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (71.4%)	79 %	6
Grain	Caraaroma	0.65 kg (11.6%)	78 %	400
Grain	Roasted Barley	0.25 kg (4.5%)	65 %	1100
Grain	Carafa III Special	0.25 kg (4.5%)	70 %	1300
Adjunct	płatki owsiane	0.45 kg (8%)	--- %	3.5

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	15.5 %
Boil	Glacier	15 g	60 min	5.5 %
Aroma (end of boil)	Glacier	15 g	15 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

## Notes

- jak wyjdzie nizszy ekstrakt, to mniej chmielu  
*Sep 7, 2017, 3:20 PM*