

# Czarna czerń

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **22**
- SRM **26.2**
- Style **Dry Stout**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **10 liter(s)**
- Total mash volume **12.5 liter(s)**

## Steps

- Temp **70 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **10 liter(s)** of strike water to **76.3C**
- Add grains
- Keep mash **60 min** at **70C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.2 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.75 kg (70%)	80 %	5
Grain	Jęczmień palony	0.15 kg (6%)	55 %	985
Grain	płatki jęczmienne	0.25 kg (10%)	60 %	4
Grain	Czekoladowy	0.1 kg (4%)	60 %	788
Grain	słód żytni czekoladowy	0.25 kg (10%)	--- %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	20 g	60 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Lutra OYL-071	Ale	Liquid	5 ml	Domowe

## Notes

- Warzone 20.04, blg początkowe 13  
Dogrzewane pasem  
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