

## Mała Czarna #2 - Irish Stout - Browar na Wyżynie

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- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **26**
- SRM **39.6**
- Style **Dry Stout**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **6 %**
- Size with trub loss **20.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **23.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **23.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pale ale Viking Malt	2.5 kg (55.6%)	80 %	6
Grain	monachijski typ II Viking Malt	0.5 kg (11.1%)	78 %	22
Grain	czekoladowy ciemny Viking Malt	0.3 kg (6.7%)	1 %	900
Grain	jęczmień prażony Viking Malt	0.2 kg (4.4%)	1 %	1100
Grain	pszenica prażona Viking Malt	0.2 kg (4.4%)	1 %	1100
Grain	karmelowy 100 - Viking Malt	0.3 kg (6.7%)	75 %	100
Grain	płatki jęczmienne błyskawiczne	0.5 kg (11.1%)	70 %	1

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Junga (PL) - granulát	15 g	45 min	12.5 %
Boil	Saaz (CZ) - granulát	10 g	20 min	3.78 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Liquid	100 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	4 g	Boil	15 min
Water Agent	chlerek wapnia	5 g	Mash	70 min

### Notes

- Profil wody:  
Ca+2 Mg+2 Na+ Cl- SO4-2 HCO Alkalinity Residual

153.6 20.0 6.0 74.4 46.0 300.4 266.8 145.6

SO42-/Cl- ratio: 0.5 Very Malty  
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