

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

- 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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