

Czarnulka

- Gravity **17.1 BLG**
- ABV **7.3 %**
- IBU **55**
- SRM **27.1**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.43 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **16.7 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **13 liter(s)** of strike water to **70.4C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.08 kg (81.5%)	80 %	4
Grain	Caraaroma	0.21 kg (5.6%)	78 %	400
Grain	Weyermann - Carafa I	0.07 kg (1.9%)	70 %	690
Grain	Barley, Flaked	0.218 kg (5.8%)	70 %	4
Grain	Oats, Flaked	0.062 kg (1.6%)	80 %	2
Grain	Jęczmień palony	0.14 kg (3.7%)	55 %	985

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	50 min	10.5 %
Aroma (end of boil)	Lublin (Lubelski)	31 g	10 min	3.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale

Extras

Type	Name	Amount	Use for	Time
Fining	Mech Irlandzki	4 g	Boil	15 min