

Gorzka Czarna

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **61**
- SRM **27.5**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **2 %**
- Size with trub loss **21.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.8 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.6 liter(s)**
- Total mash volume **30.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **23.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5.5 kg (78.6%)	80 %	5
Grain	Strzegom Karmel 30	0.5 kg (7.1%)	75 %	30
Grain	Weyermann - Carafa II	0.5 kg (7.1%)	70 %	837
Grain	Biscuit Malt	0.25 kg (3.6%)	79 %	45
Sugar	cukier	0.25 kg (3.6%)	--- %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	30 g	50 min	13 %
Boil	Columbus/Tomahawk/Zeus	20 g	15 min	15.5 %
Boil	Citra	30 g	5 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Flavor	cukier	250 g	Boil	5 min