

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 |