

Czarna Zółta

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **79**
- SRM **33.2**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **13 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.4 liter(s)**
- Total mash volume **13.8 liter(s)**

Steps

- Temp **61 C**, Time **40 min**
- Temp **67 C**, Time **30 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **10.4 liter(s)** of strike water to **67.8C**
- Add grains
- Keep mash **40 min** at **61C**
- Keep mash **30 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **6.1 liter(s)** of **76C** water or to achieve **13 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pale Ale Strzegom	3 kg (87%)	80 %	6
Grain	Palone ziarno jęczmienia Roasted Barley	0.1 kg (2.9%)	70 %	1100
Grain	Słód Carafa typ1	0.25 kg (7.2%)	70 %	800
Grain	Karmelowy Czerwony	0.1 kg (2.9%)	75 %	59

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	15 g	60 min	15.5 %
Boil	Simcoe	20 g	18 min	13.2 %
Boil	Columbus/Tomahawk/Zeus	5 g	18 min	15.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
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FM54 Gorączka kalifornijska	Ale	Liquid	130 ml	Fermentum Mobile
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