

## #021 IBA v5

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **60**
- SRM **26.9**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **100 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.6 liter(s)**
- Total mash volume **23.9 liter(s)**

### Steps

- Temp **64 C**, Time **75 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **18.6 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **75 min** at **64C**
- Keep mash **10 min** at **76C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (70.3%)	79 %	6
Grain	Weyermann - Carafa III	0.5 kg (8.8%)	70 %	1024
Grain	Carahell	0.5 kg (8.8%)	77 %	26
Grain	Biscuit Malt	0.32 kg (5.6%)	79 %	45
Sugar	cukier	0.37 kg (6.5%)	--- %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	15.1 %
Aroma (end of boil)	Citra	20 g	20 min	13.5 %
Aroma (end of boil)	Citra	30 g	10 min	13.5 %
Aroma (end of boil)	Cascade	20 g	10 min	8.1 %
Aroma (end of boil)	Cascade	30 g	5 min	8.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	10 g	Fermentis