

## test

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- Gravity **29.3 BLG**
- ABV **14.4 %**
- IBU **68**
- SRM **28.1**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **26.3 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **37.6 liter(s)**
- Total mash volume **50.1 liter(s)**

### Steps

- Temp **62 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **37.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **10 min** at **78C**
- Sparge using **1.2 liter(s)** of **76C** water or to achieve **26.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	5 kg (39.9%)	80 %	6
Grain	Biscuit Malt	0.13 kg (1%)	79 %	45
Grain	Carafa II	0.5 kg (4%)	70 %	812
Grain	Briess - 2 Row Carapils Malt	0.1 kg (0.8%)	75 %	3
Grain	Biscuit Malt	2 kg (16%)	79 %	45
Grain	Żytni	1 kg (8%)	85 %	8
Grain	Briess - Pilsen Malt	0.5 kg (4%)	80.5 %	2
Grain	Briess - Pale Ale Malt	1.4 kg (11.2%)	80 %	7
Grain	Pszeniczny	1.9 kg (15.2%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	7.8 %
Boil	Cascade	20 g	5 min	4.6 %
Boil	Magnum	33 g	40 min	13.5 %
Boil	Lublin (Lubelski)	43 g	20 min	4 %
Boil	Citra	56 g	5 min	12 %

Boil	Mosaic	28 g	18 min	10 %
Boil	Saaz (Czech Republic)	40 g	32 min	4.5 %
Boil	Amarillo	21 g	5 min	9.5 %
Boil	Nelson Sauvin	37 g	7 min	11 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	10 g	Safale