

## back to black

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- Gravity **13.5 BLG**
- ABV ---
- IBU **63**
- SRM **40**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

### Steps

- Temp **66 C**, Time **75 min**
- Temp **78 C**, Time **15 min**

### Mash step by step

- Heat up **17.5 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **15 min** at **78C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3 kg (60%)	79 %	6
Grain	Fawcett - Pszeniczny Czekoladowy	0.5 kg (10%)	73 %	1001
Grain	Strzegom Monachijski typ I	0.5 kg (10%)	79 %	16
Grain	Strzegom Pilzneński	1 kg (20%)	80 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pekko	5 g	60 min	13.6 %
Boil	Bravo	5 g	60 min	15.5 %
Boil	Pekko	10 g	30 min	13.6 %
Boil	Bravo	10 g	30 min	15.5 %
Boil	Summit	10 g	30 min	15.8 %
Aroma (end of boil)	Equinox	20 g	0 min	13.1 %
Aroma (end of boil)	Pekko	20 g	0 min	13.6 %
Aroma (end of boil)	Bravo	15 g	0 min	15.5 %
Aroma (end of boil)	Mouteka	16.6 g	10 min	7.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-05	Ale	Dry	12 g	Safale

## Extras

Type	Name	Amount	Use for	Time
Flavor	trawa cytrynowa	10 g	Boil	10 min