

## Polish Black IPA

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- Gravity **7.8 BLG**
- ABV **3 %**
- IBU **15**
- SRM **17.3**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **23 %/h**
- Boil size **17 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **7 liter(s)**
- Total mash volume **9 liter(s)**

### Steps

- Temp **38 C**, Time **20 min**
- Temp **52 C**, Time **40 min**
- Temp **67 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **7 liter(s)** of strike water to **40.6C**
- Add grains
- Keep mash **20 min** at **38C**
- Keep mash **40 min** at **52C**
- Keep mash **40 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **12 liter(s)** of **76C** water or to achieve **17 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	1.2 kg (60%)	81 %	4
Grain	Oats, Flaked	0.5 kg (25%)	80 %	2
Grain	Abbey Castle	0.1 kg (5%)	80 %	45
Grain	Strzegom Czekoladowy jasny	0.1 kg (5%)	68 %	400
Grain	Carafa III	0.1 kg (5%)	70 %	1034

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tomyski	20 g	60 min	2.8 %
Aroma (end of boil)	Książęcy	40 g	1 min	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM51 Grodzie Dębowe	Wheat	Slant	80 ml	Fermentum Mobile