

# ORANGE BLACK ALE 20

- Gravity **15 BLG**
- ABV ---
- IBU **29**
- SRM **42.2**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

## Steps

- Temp **52 C**, Time **15 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **17.4 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (51.7%)	81 %	4
Grain	Żytni	1 kg (17.2%)	85 %	8
Grain	Strzegom Wiedeński	0.2 kg (3.4%)	79 %	10
Grain	Crystal Dark	0.1 kg (1.7%)	74 %	158
Grain	Pszeniczny Czekoladowy	0.5 kg (8.6%)	73 %	1100
Grain	Strzegom Czekoladowy jasny	0.5 kg (8.6%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.1 kg (1.7%)	68 %	1200
Grain	Płatki owsiane	0.4 kg (6.9%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	20 g	60 min	6 %
Boil	Cascade	20 g	30 min	6 %
Boil	Cascade	30 g	10 min	6 %

Whirlpool	Cascade	30 g	0 min	6 %
Dry Hop	Cascade	100 g	4 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	100 ml	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Flavor	Pomarańcze	1700 g	Boil	10 min
Flavor	Pomarańcze	2000 g	Secondary	3 day(s)
Flavor	curacao	20 g	Boil	10 min
Flavor	skórka z pomarańczy, słodka	50 g	Secondary	3 day(s)