

## Pale Ale - 2.08.2020 - Kraków Warsztaty

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- Gravity **10.7 BLG**
- ABV **4.3 %**
- IBU **32**
- SRM **3.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

### Mash information

- Mash efficiency **71 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.5 kg (87.5%)	81 %	4
Grain	Pszeniczny	0.3 kg (7.5%)	85 %	4
Grain	Płatki owsiane	0.2 kg (5%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	16 %
Boil	Citra	10 g	15 min	12.5 %
Aroma (end of boil)	Citra	10 g	2 min	12.5 %
Aroma (end of boil)	Amarillo	15 g	2 min	8.5 %
Dry Hop	Amarillo	20 g	1 day(s)	8.5 %
Dry Hop	Citra	15 g	1 day(s)	12.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis