

Pale Ale - 22.02.2020 Warsztaty Kraków

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **39**
- SRM **3.5**
- 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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.6 liter(s)**
- Total mash volume **16.8 liter(s)**

Steps

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

Mash step by step

- Heat up **12.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilznieński	4 kg (95.2%)	81 %	4
Grain	Pszeniczny	0.2 kg (4.8%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	13 g	60 min	16.1 %
Boil	Mosaic	15 g	15 min	11.5 %
Boil	Mosaic	20 g	2 min	11.5 %
Boil	Cascade	25 g	2 min	4 %
Dry Hop	Cascade	27 g	1 day(s)	4 %
Dry Hop	Mosaic	23 g	1 day(s)	11.5 %

Yeasts

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