

## Warszawa e.9 - 23.10.2022

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **34**
- SRM **3.8**
- 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 **15 %/h**
- Boil size **23.8 liter(s)**

### Mash information

- Mash efficiency **96 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.3 liter(s)**
- Total mash volume **13.7 liter(s)**

### Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **10.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	1.35 kg (39.4%)	80 %	8
Grain	Viking Pale Ale malt	2 kg (58.3%)	80 %	5
Grain	Pszeniczny	0.08 kg (2.3%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	18 g	60 min	10.6 %
Boil	exp 2/20	10 g	15 min	7.5 %
Boil	Książęcy	10 g	15 min	7 %
Aroma (end of boil)	exp 2/20	15 g	1 min	7.5 %
Aroma (end of boil)	Książęcy	15 g	1 min	7 %

### Yeasts

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