

## Warszawa e.16 - 14.04.2024

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **30**
- SRM **4.2**
- 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 **88 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.7 liter(s)**
- Total mash volume **14.2 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **10.7 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.2 kg (90.1%)	80 %	5
Grain	Pszeniczny	0.2 kg (5.6%)	85 %	4
Grain	cookie	0.15 kg (4.2%)	72 %	50

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	EXP 3/20	17 g	60 min	9.3 %
Boil	EXP 3/20	18 g	10 min	9.3 %
Aroma (end of boil)	EXP 3/20	40 g	1 min	9.3 %