

## Polish Pale Ale (warka #23)

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- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **16**
- SRM **5.8**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **16.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

### Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **10.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **16.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.5 kg (42.9%)	80 %	5
Grain	Viking Wheat Malt	0.7 kg (20%)	83 %	5
Grain	Karmelowy Jasny 30EBC	0.5 kg (14.3%)	75 %	30
Grain	Płatki owsiane	0.5 kg (14.3%)	85 %	3
Grain	Płatki pszeniczne	0.3 kg (8.6%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zula	5 g	60 min	8.3 %
Boil	Książęcy	5 g	15 min	7 %
Boil	Zula	5 g	15 min	8.3 %
Aroma (end of boil)	Książęcy	10 g	5 min	7 %
Dry Hop	Książęcy	30 g	3 day(s)	7 %
Dry Hop	Zula	20 g	3 day(s)	8.3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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US-05	Ale	Slant	400 ml	---
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### Extras

Type	Name	Amount	Use for	Time
Fining	Mech Irlandzki	2 g	Boil	15 min