

# WARKA#4 ALE POLSKA I

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **30**
- SRM **3.7**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **31 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **40 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **31 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5 kg (90.9%)	81 %	4
Grain	Pszeniczny	0.5 kg (9.1%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	8 %
Aroma (end of boil)	Cascade PL	30 g	10 min	5.5 %
Whirlpool	Cascade PL	30 g	1 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
s-33	Ale	Dry	10 g	---

## Notes

- Dodać 0,5 kg słodu wiedeńskiego  
Zwiększyć czas gotowania do 90 min  
*Sep 16, 2018, 6:51 PM*