

## Warka #9

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **47**
- SRM **4.2**

### Batch size

- Expected quantity of finished beer **28 liter(s)**
- Trub loss **5 %**
- Size with trub loss **29.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **35.4 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.3 liter(s)**
- Total mash volume **23 liter(s)**

### Steps

- Temp **73 C**, Time **0 min**
- Temp **67 C**, Time **90 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **17.3 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **0 min** at **73C**
- Keep mash **1 min** at **76C**
- Sparge using **23.9 liter(s)** of **76C** water or to achieve **35.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.464 kg (42.8%)	80 %	5
Grain	Strzegom Pilzneński	1.545 kg (26.8%)	80 %	4
Grain	Carahell	0.452 kg (7.8%)	77 %	26
Grain	Słód pszeniczny Bestmalz	0.4 kg (6.9%)	82 %	6
Grain	Żytni	0.4 kg (6.9%)	85 %	10
Grain	Oats, Flaked	0.25 kg (4.3%)	80 %	2
Grain	Rye, Flaked	0.25 kg (4.3%)	78.3 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	60 min	11 %
Boil	Puławski	30 g	15 min	4.3 %
Boil	Oktawia	33 g	10 min	7.1 %
Aroma (end of boil)	Chinook	20 g	5 min	13 %
Whirlpool	Puławski	22 g	60 min	4.3 %
Whirlpool	lunga	10 g	60 min	11 %

### Yeasts

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

<b>Name</b>	<b>Type</b>	<b>Form</b>	<b>Amount</b>	<b>Laboratory</b>
Safale US-05	Ale	Dry	11.5 g	Fermentis