

## Warka #9 Pal ALL

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **53**
- SRM **5.5**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (75%)	80 %	5
Grain	Monachijski	1 kg (25%)	80 %	16

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	30 g	60 min	3.5 %
Boil	Magnum	10 g	20 min	13.5 %
Boil	Admiral	15 g	40 min	14.3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	5.5 g	---

### Extras

Type	Name	Amount	Use for	Time
Fining	mech Irlandzki	2 g	Mash	15 min