

## warka 07 - Pale Ale

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **35**
- SRM **4.4**
- Style **Extra Special/Strong Bitter (English 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 **10 %/h**
- Boil size **22.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

### Steps

- Temp **70 C**, Time **20 min**
- Temp **68 C**, Time **20 min**
- Temp **66 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **17.5 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **20 min** at **66C**
- Keep mash **20 min** at **68C**
- Keep mash **20 min** at **70C**
- Keep mash **10 min** at **78C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (100%)	80 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Oktawia	30 g	60 min	7.5 %
Boil	Oktawia	20 g	15 min	7.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale

### Notes

- Wysładzenie bez podbicia 15L o temperaturze 78C  
Wysładzenie z podbiciem 5L i 10L o temperaturze 78C  
Całość musi dać 19-21L do fermentacji  
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