

# warka 1 - pale ale ENG

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **53**
- SRM **5.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **7 liter(s)**
- Total mash volume **9 liter(s)**

## Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **7 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **7.7 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	1.6 kg (80%)	80 %	8
Grain	Monachijski	0.3 kg (15%)	80 %	16
Grain	Karmelowy Jasny 30EBC	0.1 kg (5%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Phoenix	15 g	60 min	11 %
Aroma (end of boil)	Progress	20 g	15 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	8 g	Safale

## Notes

- Użyto drożdże Mangrove Jack's Liberty Bell Yeast M36, nie było ich do wyboru na liście  
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