

# Centrum Piwowartwa Pale Ale

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **40**
- SRM **8.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **19.3 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **68 C**, Time **80 min**
- Temp **72 C**, Time **10 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **72C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	2.55 kg (59.3%)	82 %	4
Grain	Viking Munich Malt	1.4 kg (32.6%)	78 %	18
Grain	viking karmelowy 150	0.35 kg (8.1%)	70 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	8.6 %
Dry Hop	Lubelski	40 g	3 day(s)	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP518 - Opshaug Kveik Ale	Ale	Liquid	100 ml	---