

## PIWO #3

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- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **40**
- SRM **4.3**

### 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**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- 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	4 kg (100%)	80 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	10 g	45 min	13.3 %
Boil	Simcoe	20 g	15 min	13.3 %
Boil	Sorachi Ace	15 g	5 min	10 %
Dry Hop	Simcoe	20 g	5 day(s)	13.3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	safale