

## ppa

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **62**
- SRM **3.6**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **10.7 liter(s)** of **76C** water or to achieve **20.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	3.6 kg (90%)	82 %	4
Grain	Weyermann - Carapils	0.4 kg (10%)	78 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	25 g	60 min	10.9 %
Whirlpool	Izabella	50 g	30 min	6.5 %
Whirlpool	Książęcy	25 g	30 min	7 %
Dry Hop	Izabella	50 g	3 day(s)	6.5 %
Dry Hop	Książęcy	50 g	3 day(s)	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.5 g	---