

## Polish Pale Ale ( z dodatkiem soku z grapefruita)

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **37**
- SRM **4.7**

### Batch size

- Expected quantity of finished beer **38 liter(s)**
- Trub loss **5 %**
- Size with trub loss **41.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **47.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33.9 liter(s)**
- Total mash volume **45.2 liter(s)**

### Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **33.9 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **25 liter(s)** of **76C** water or to achieve **47.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	9 kg (79.6%)	80 %	5
Grain	Karmelowy Jasny 30EBC	0.3 kg (2.7%)	75 %	30
Grain	Płatki owsiane	2 kg (17.7%)	60 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	10 %
Aroma (end of boil)	Lublin (Lubelski)	50 g	15 min	4 %
Aroma (end of boil)	Lublin (Lubelski)	50 g	5 min	4 %
Whirlpool	Izabella	100 g	5 min	5.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	33 g	Fermentis