

## #013 Polish Pale Ale

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **42**
- SRM **4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **93 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.9 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **13.4 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **78C**
- Sparge using **22.8 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4.2 kg (93.8%)	79 %	6
Grain	Fawcett - Crystal	0.02 kg (0.4%)	70 %	160
Grain	Karmelowy Jasny 30EBC	0.11 kg (2.5%)	75 %	30
Grain	Słód owsiany Fawcett	0.15 kg (3.3%)	61 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	60 min	11 %
Boil	zula	20 g	10 min	8.3 %
Boil	izabella	10 g	10 min	4.7 %
Whirlpool	zula	30 g	20 min	8.3 %
Whirlpool	izabella	15 g	20 min	4.7 %
Dry Hop	zula	50 g	3 day(s)	8.3 %
Dry Hop	izabella	25 g	3 day(s)	4.7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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FM54 Gorączka kalifornijska	Ale	Liquid	1000 ml	Fermentum Mobile
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### Extras

Type	Name	Amount	Use for	Time
Fining	whirfloc T	1.25 g	Boil	15 min