

## Polish PA

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- Gravity **12.1 BLG**
- ABV ---
- IBU **38**
- SRM **4.8**

### 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 **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

### Steps

- Temp **65 C**, Time **35 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **15.4 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **35 min** at **65C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (90.9%)	81 %	4
Grain	Pszeniczny	0.2 kg (4.5%)	85 %	4
Grain	Strzegom Karmel 30	0.2 kg (4.5%)	75 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	9.5 %
Boil	Marynka	10 g	30 min	9.5 %
Boil	Lublin (Lubelski)	20 g	15 min	3.6 %
Boil	Lublin (Lubelski)	10 g	5 min	3.6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale