

## #12. Polish Pale Ale

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **33**
- SRM **7.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **13.5 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **67 C**, Time **25 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **10.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **25 min** at **67C**
- Keep mash **1 min** at **76C**
- Sparge using **7.7 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop Ale	2.6 kg (86.7%)	80 %	5
Grain	Strzegom Karmel 150	0.2 kg (6.7%)	75 %	150
Grain	Weyermann - Carapils	0.1 kg (3.3%)	78 %	4
Grain	Weyermann Pszeniczny ciemny	0.1 kg (3.3%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	10 g	60 min	12.5 %
Aroma (end of boil)	Magnat	5 g	15 min	12.5 %
Aroma (end of boil)	Magnat	5 g	10 min	12.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	70 ml	Fermentum Mobile