

# Polskie Ale

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **35**
- SRM **3.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29.9 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

## Steps

- Temp **52 C**, Time **5 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

## Mash step by step

- Heat up **19.3 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **29.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (54.5%)	81 %	4
Grain	Pale Ale Viking	2 kg (36.4%)	80 %	5
Grain	Płatki pszeniczne	0.5 kg (9.1%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	60 min	9.5 %
Boil	Oktawia	10 g	15 min	7.8 %
Boil	Oktawia	10 g	5 min	7.8 %
Aroma (end of boil)	Oktawia	10 g	1 min	7.8 %
Whirlpool	Oktawia	10 g	25 min	7.8 %
Dry Hop	Oktawia	10 g	3 day(s)	7.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM11 Wichrowe Wzgórza	Ale	Liquid	1000 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc	0.5 g	Boil	15 min
Water Agent	Chlorek wapnia	2 g	Boil	60 min
Water Agent	Siarczan wapnia	2.5 g	Boil	60 min

## Notes

- Woda "Oaza" z Biedry:  
HCO - 220  
SO - 36  
Cl - 3  
Ca - 41  
Mg - 24  
Na - 9  
K - 2  
Stosunek Si->Cl = 2,1  
More Bitter  
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