

# 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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