

Polskie Pale Ale (Crystal)

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **53**
- SRM **6.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **3 %**
- Size with trub loss **20.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **2 %/h**
- Boil size **21.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **14.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **11.8 liter(s)** of **76C** water or to achieve **21.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------------|----------------|--------|-----|
| Grain | Pale Ale Malt Malteurop | 3.1 kg (64.6%) | 79 % | 6 |
| Grain | Viking Munich Malt | 0.9 kg (18.7%) | 78 % | 18 |
| Grain | Caramel/Crystal Malt - 20L | 0.2 kg (4.2%) | 75 % | 39 |
| Grain | Barley, Raw | 0.2 kg (4.2%) | 60.9 % | 4 |
| Grain | Wheat, Raw | 0.2 kg (4.2%) | 60.9 % | 4 |
| Grain | Oat, Raw | 0.2 kg (4.2%) | 60.9 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------------|---------|--------|--------|------------|
| Boil | lunga | 22 g | 70 min | 10.7 % |
| (granulat) | | | | |
| Boil | Magnat | 22 g | 15 min | 7.2 % |
| (szyszki własne z ogrodu) | | | | |
| Boil | lunga | 22 g | 15 min | 10.7 % |
| (granulat) | | | | |
| Aroma (end of boil) | Sybilla | 13 g | 0 min | 3.5 % |

| | | | | |
|---|---------|-------|----------|-------|
| (szyszki własne z ogrodu) | | | | |
| Dry Hop | Crystal | 150 g | 3 day(s) | 2.4 % |
| Bardzo intensywne wydzielanie CO2 podczas chmielenia na zimno | | | | |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 100 ml | Fermentis |