

Polish PA

- 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 |