

polskie ale z pk + lacto +pł owsiane +1kg pale

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **35**
- SRM **6.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.8 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.1 liter(s)**
- Total mash volume **24.2 liter(s)**

Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18.1 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **29.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|--------|-----|
| Grain | Viking Pilsner malt | 4.2 kg (64.1%) | 82 % | 4 |
| Grain | Weyermann - Pale Ale Malt | 1 kg (15.3%) | 85 % | 7 |
| Grain | Strzegom Karmel 150 | 0.25 kg (3.8%) | 75 % | 150 |
| Grain | Płatki owsiane | 0.6 kg (9.2%) | 85 % | 3 |
| Sugar | Milk Sugar (Lactose) | 0.5 kg (7.6%) | 76.1 % | 0 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Marynka | 30 g | 60 min | 10 % |
| Boil | Lublin (Lubelski) | 15 g | 10 min | 4 % |
| Aroma (end of boil) | Lublin (Lubelski) | 20 g | 5 min | 4 % |
| Boil | Columbus/Tomahawk/Zeus | 8 g | 20 min | 15.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 11.5 g | Fermentis |