

Kristal

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **32**
- SRM **3.7**
- Style **Classic American Pilsner**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **28.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------|--------------|-------|-----|
| Grain | Pilzneński | 4.5 kg (75%) | 81 % | 4 |
| Grain | Płatki ryżowe | 1.5 kg (25%) | 78 % | 2 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 40 g | 60 min | 6.5 % |
| Boil | Marynka | 30 g | 10 min | 6.5 % |
| Boil | Marynka | 30 g | 0 min | 6.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 400 ml | Fermentis |