

OIRajt

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **37**
- SRM **6.3**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- 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 **21.7 liter(s)**
- Total mash volume **27.9 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **21.7 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------|---------------|--------|-----|
| Grain | Pilzneński | 5 kg (80.6%) | 81 % | 4 |
| Grain | Rye, Flaked | 0.4 kg (6.5%) | 78.3 % | 4 |
| Grain | Rye Malt | 0.5 kg (8.1%) | 63 % | 10 |
| Grain | Caramunich® typ I | 0.3 kg (4.8%) | 73 % | 80 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnum | 40 g | 30 min | 12 % |
| Boil | Lublin (Lubelski) | 60 g | 0 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------|-------|------|--------|------------|
| Saflager S-23 | Lager | Dry | 11 g | --- |