

4P

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **34**
- SRM **4.3**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **25.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **16 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **13.9 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---|------------|-------|-----|
| Grain | Słód Pilsner® 2,5-4,5 EBC Weyermann | 3 kg (75%) | 100 % | 4 |
| Grain | Strzegom Monachijski typ I | 1 kg (25%) | 100 % | 16 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil | Cascade PL | 15 g | 60 min | 5.2 % |
| Boil | Marynka | 15 g | 60 min | 10 % |
| Aroma (end of boil) | Chinook | 25 g | 15 min | 6.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------|-------|------|--------|------------|
| W 34-70 | Lager | Dry | 11 g | --- |