

Pils

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **39**
- SRM **3.8**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **3 %**
- Size with trub loss **25.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **5 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.2 liter(s)**

Steps

- Temp **50 C**, Time **30 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**

Mash step by step

- Heat up **15.1 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Sparge using **18.9 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------|----------------|-------|-----|
| Grain | Pilzneński | 4.5 kg (89.3%) | 81 % | 4 |
| Grain | Strzegom Karmel 30 | 0.08 kg (1.6%) | 75 % | 50 |
| Grain | Strzegom Wiedeński | 0.46 kg (9.1%) | 79 % | 10 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil | Lublin (Lubelski) | 50 g | 60 min | 6 % |
| Boil | Lublin (Lubelski) | 20 g | 15 min | 6 % |
| Aroma (end of boil) | Lublin (Lubelski) | 30 g | 5 min | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|-------|-------|----------|------------|
| ge | Lager | Slant | 13.75 ml | --- |