

Polski PILS

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **52**
- SRM **4.6**
- 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 **60 min**
- Evaporation rate **23 %/h**
- Boil size **28.3 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **28.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 4 kg (88.9%) | 80 % | 4 |
| Grain | Strzegom Karmel 30 | 0.5 kg (11.1%) | 75 % | 30 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil | Marynka | 50 g | 50 min | 7.4 % |
| Aroma (end of boil) | Lublin (Lubelski) | 50 g | 15 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|-------|--------|---------|------------------|
| FM31 Bawarska Dolina | Lager | Liquid | 1000 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-----------|--------|---------|--------|
| Fining | Whirlfloc | 0.5 g | Boil | 15 min |