

Pils modyfikacja

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **48**
- SRM **3.7**
- Style **Bohemian Pilsener**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **4 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

Steps

- Temp **50 C**, Time **10 min**
- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **15.4 liter(s)** of strike water to **54.3C**
- Add grains
- Keep mash **10 min** at **50C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|-----|
| Grain | słód pilzneński | 4 kg (90.9%) | 86 % | 4 |
| Grain | Strzegom Monachijski typ II | 0.2 kg (4.5%) | 79 % | 22 |
| Grain | słód caramel pils bestmalz | 0.2 kg (4.5%) | 79 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil | Magnum | 20 g | 60 min | 13.5 % |
| Boil | Sybilla | 30 g | 60 min | 3.5 % |
| Boil | hallertau hersbrucker | 12 g | 15 min | 2.3 % |
| Boil | Sybilla | 15 g | 15 min | 3.5 % |
| Boil | hallertau hersbrucker | 12 g | 5 min | 2.3 % |
| Boil | Sybilla | 10 g | 5 min | 3.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------------|-------------|-------------|---------------|-------------------|
| Mangrove Jack's M84 Bohemian Lager | Lager | Dry | 11 g | Mangrove Jack's |