

polski jasne

- Gravity **12.1 BLG**
- ABV ---
- IBU **19**
- SRM **5**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **57 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33 liter(s)**
- Total mash volume **44 liter(s)**

Steps

- Temp **67 C**, Time **90 min**

Mash step by step

- Heat up **33 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **90 min** at **67C**
- Sparge using **35 liter(s)** of **76C** water or to achieve **57 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Strzegom Pilzneński | 10 kg (90.9%) | 80 % | 4 |
| Grain | Caramel/Crystal Malt - 20L | 1 kg (9.1%) | 75 % | 39 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil | Mandarina Bavaria | 15 g | 60 min | 9.1 % |
| Boil | Saaz (Czech Republic) | 50 g | 20 min | 4.5 % |
| Boil | Saaz (Czech Republic) | 50 g | 10 min | 4.5 % |
| Boil | Mandarina Bavaria | 15 g | 5 min | 9.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------------|-------|-------|--------|-----------------|
| Mangrove Jack's M84 Bohemian Lager | Lager | Slant | 150 ml | Mangrove Jack's |