

Marcowe

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **25**
- SRM **10.3**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **14.6 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **69 C**, Time **70 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **73.9C**
- Add grains
- Keep mash **70 min** at **69C**
- Keep mash **5 min** at **78C**
- Sparge using **2.6 liter(s)** of **76C** water or to achieve **14.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Pilzneński | 1.5 kg (50%) | 81 % | 4 |
| Grain | Strzegom Monachijski typ II | 0.6 kg (20%) | 79 % | 22 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (16.7%) | 79 % | 16 |
| Grain | Strzegom Karmel 30 | 0.2 kg (6.7%) | 75 % | 30 |
| Grain | Strzegom Karmel 150 | 0.2 kg (6.7%) | 75 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Marynka | 10 g | 60 min | 10 % |
| Boil | Lublin (Lubelski) | 10 g | 20 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------------|-------|-------|--------|-----------------|
| Mangrove Jack's M84 Bohemian Lager | Lager | Slant | 800 ml | Mangrove Jack's |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|----------------|--------|---------|--------|
| Water Agent | chlorek wapnia | 4 g | Boil | 70 min |
| Fining | mech irlandzki | 3 g | Boil | 15 min |