

## Marcowe 2017 \*\*\*\*

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **27**
- SRM **6.6**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **15 %**
- Size with trub loss **23 liter(s)**
- Boil time **90 min**
- Evaporation rate **6 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **2.96 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26.7 liter(s)**

### Steps

- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

| Type  | Name                         | Amount         | Yield  | EBC |
|-------|------------------------------|----------------|--------|-----|
| Grain | Pilzneński Optima            | 5 kg (74.1%)   | 80.5 % | 4   |
| Grain | Wiedeński Optima             | 1 kg (14.8%)   | 79.2 % | 9   |
| Grain | Pszeniczny Weyermann         | 0.25 kg (3.7%) | 82 %   | 4   |
| Grain | Karmelowy jasny 40-60 Optima | 0.5 kg (7.4%)  | 75.3 % | 60  |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | lunga granulat    | 15 g   | 30 min | 12.9 %     |
| Boil    | Oktawia granulat  | 15 g   | 20 min | 7.8 %      |
| Boil    | Marynka granulat  | 15 g   | 10 min | 7.7 %      |
| Boil    | Lubelski granulat | 30 g   | 1 min  | 3.5 %      |

### Yeasts

| Name             | Type  | Form  | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W-34/70 | Lager | Slant | 500 ml | Fermentis  |