

## marcowe

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **19**
- SRM **10.6**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

### Steps

- Temp **52 C**, Time **15 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **20 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **30 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

| Type  | Name                       | Amount        | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Pilzneński                 | 2 kg (36.4%)  | 81 %  | 4   |
| Grain | Strzegom Monachijski typ I | 2 kg (36.4%)  | 79 %  | 16  |
| Grain | Strzegom Wiedeński         | 1 kg (18.2%)  | 79 %  | 10  |
| Grain | Strzegom Karmel 150        | 0.5 kg (9.1%) | 75 %  | 150 |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Marynka           | 15 g   | 50 min | 10 %       |
| Boil    | Lublin (Lubelski) | 20 g   | 20 min | 4 %        |

### Yeasts

| Name | Type  | Form | Amount | Laboratory |
|------|-------|------|--------|------------|
| s-23 | Lager | Dry  | 10 g   | ---        |