

# Marcowe 2019

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- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **28**
- SRM **9.5**
- Style **Oktoberfest/Märzen**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **90 min**
- Evaporation rate **12 %/h**
- Boil size **31.2 liter(s)**

## Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **30.5 liter(s)**
- Total mash volume **36.6 liter(s)**

## Steps

- Temp **50 C**, Time **15 min**
- Temp **63 C**, Time **120 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **30.5 liter(s)** of strike water to **53C**
- Add grains
- Keep mash **15 min** at **50C**
- Keep mash **120 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **6.8 liter(s)** of **76C** water or to achieve **31.2 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Pilzneński                 | 3.3 kg (54.1%) | 81 %  | 4   |
| Grain | Strzegom Monachijski typ I | 2.7 kg (44.3%) | 79 %  | 16  |
| Grain | Strzegom Karmel 600        | 0.1 kg (1.6%)  | 68 %  | 601 |

## Hops

| Use for    | Name    | Amount | Time   | Alpha acid |
|------------|---------|--------|--------|------------|
| First Wort | Magnum  | 15 g   | 90 min | 12 %       |
| Boil       | Sybilla | 25 g   | 15 min | 7 %        |

## Yeasts

| Name                         | Type  | Form   | Amount | Laboratory |
|------------------------------|-------|--------|--------|------------|
| WLP800 - Pilsner Lager Yeast | Lager | Liquid | 250 ml | White Labs |