

## marcowe

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **26**
- SRM **10.6**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **52.9 liter(s)**

### Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **2 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **30.6 liter(s)**

### Steps

- Temp **64 C**, Time **20 min**
- Temp **72 C**, Time **50 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **20.4 liter(s)** of strike water to **75C**
- Add grains
- Keep mash **20 min** at **64C**
- Keep mash **50 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **42.7 liter(s)** of **76C** water or to achieve **52.9 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński         | 4.6 kg (45.1%) | 80 %  | 4   |
| Grain | Strzegom Monachijski typ II | 4.6 kg (45.1%) | 79 %  | 22  |
| Grain | Strzegom Karmel 150         | 0.8 kg (7.8%)  | 75 %  | 150 |
| Grain | Strzegom Pszeniczny         | 0.2 kg (2%)    | 81 %  | 6   |

### Hops

| Use for | Name   | Amount | Time   | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil    | mgnum  | 28 g   | 60 min | 12 %       |
| Boil    | Magnum | 20 g   | 20 min | 12 %       |

### Yeasts

| Name    | Type  | Form  | Amount | Laboratory |
|---------|-------|-------|--------|------------|
| w 34\70 | Lager | Slant | 300 ml | ---        |