

## Marcowe02

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- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **31**
- SRM **4.2**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **21.1 liter(s)**
- Total mash volume **27.5 liter(s)**

### Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **2 min**

### Mash step by step

- Heat up **21.1 liter(s)** of strike water to **68.4C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

| Type  | Name                  | Amount        | Yield | EBC |
|-------|-----------------------|---------------|-------|-----|
| Grain | Pilzneński/ Pale ale  | 5 kg (78.1%)  | 80 %  | 4   |
| Grain | Płatki owsiane        | 0.4 kg (6.3%) | 85 %  | 3   |
| Grain | Viking Wędzony torfem | 1 kg (15.6%)  | 81 %  | 7   |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | cascade (szyszka) | 60 g   | 60 min | 4.8 %      |
| Boil    | cascade (szyszka) | 40 g   | 10 min | 4.8 %      |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-33 | Ale  | Dry  | 11.5 g | safale     |