

## #120 Marcowe

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **18**
- SRM **7.2**
- Style **Oktoberfest/Märzen**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **6 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **22.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.19 liter(s) / kg**
- Mash size **14.5 liter(s)**
- Total mash volume **19.1 liter(s)**

### Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **75.6 C**, Time **1 min**

### Mash step by step

- Heat up **14.5 liter(s)** of strike water to **68.6C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **1 min** at **75.6C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **22.7 liter(s)** of wort

### Fermentables

| Type  | Name              | Amount          | Yield | EBC |
|-------|-------------------|-----------------|-------|-----|
| Grain | Monachijski jasny | 2.45 kg (53.8%) | 80 %  | 15  |
| Grain | Pilzneński        | 1.2 kg (26.4%)  | 81 %  | 4   |
| Grain | Karmelowy jasny   | 0.5 kg (11%)    | 75 %  | 30  |
| Grain | Wiedeński         | 0.4 kg (8.8%)   | 79 %  | 10  |

### Hops

| Use for             | Name                       | Amount | Time   | Alpha acid |
|---------------------|----------------------------|--------|--------|------------|
| Boil                | Tradition PL 2020 granulát | 25 g   | 60 min | 5.5 %      |
| Aroma (end of boil) | Tradition PL 2020 granulát | 10 g   | 10 min | 5.5 %      |

### Yeasts

| Name                  | Type | Form   | Amount | Laboratory       |
|-----------------------|------|--------|--------|------------------|
| FM42 Stare Nadreńskie | Ale  | Liquid | 30 ml  | Fermentum Mobile |