

#19 Marcowe

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **24**
- SRM **6.8**
- Style **Oktoberfest/Märzen**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **20.5 liter(s)**

Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------|-----------------|-------|-----|
| Grain | Pilzneński | 1.2 kg (26.4%) | 81 % | 4 |
| Grain | Monachijski | 2.45 kg (53.8%) | 80 % | 16 |
| Grain | Karmelowy Jasny 30EBC | 0.5 kg (11%) | 75 % | 30 |
| Grain | Strzegom Wiedeński | 0.4 kg (8.8%) | 79 % | 10 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | hallertauer taurus | 15 g | 60 min | 14 % |
| Boil | Hallertau | 15 g | 5 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------------|-------|------|--------|------------|
| Mangrove Jack's M76 Bavarian lager | Lager | Dry | 10 g | --- |