

Marcowe

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **40**
- SRM **7.7**
- Style **Oktoberfest/Märzen**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **21.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **40 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **21.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (60%)	81 %	4
Grain	Monachijski	1.5 kg (30%)	80 %	16
Grain	Karmelowy Czerwony	0.5 kg (10%)	75 %	59

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	25 g	60 min	13.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	5 g	Fermentis Division of S.I.Lesaffre