Marcowe

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **22**
- SRM **7.3**
- Style **Oktoberfest/Märzen**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.8 liter(s)**
- Total mash volume **30.6 liter(s)**

Steps

- Temp **63 C**, Time **20 min**
- Temp **71 C**, Time **50 min**

Mash step by step

- Heat up **23.8 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **50 min** at **71C**
- Sparge using **10.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4 kg *(58.8%)*	80 %	4
Grain	Briess - Munich Malt 10L	2.3 kg *(33.8%)*	77 %	20
Grain	Weyermann - Carapils	0.3 kg *(4.4%)*	78 %	4
Grain	Weyermann - Carared	0.2 kg *(2.9%)*	75 %	45

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Spalt Select	75 g	60 min	3.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	1000 ml	Fermentum Mobile