

Marcowe

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **30**
- SRM **9.5**
- 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 **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **29.3 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **15 min**
- Temp **100 C**, Time **10 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **2 min**

Mash step by step

- Heat up **22.8 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **30 min** at **63C**
- Keep mash **10 min** at **72C**
- Keep mash **15 min** at **72C**
- Keep mash **2 min** at **76C**
- Keep mash **10 min** at **100C**
- Sparge using **11.5 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	2 kg (30.8%)	79 %	16
Grain	Strzegom Wiedeński	2 kg (30.8%)	79 %	10
Grain	Strzegom Pilzneński	2 kg (30.8%)	80 %	4
Grain	Strzegom Karmel 30	0.2 kg (3.1%)	75 %	30
Grain	Strzegom Karmel 150	0.3 kg (4.6%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	40 g	60 min	6.3 %
Boil	Tettnang	30 g	20 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
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WLP920 - Old Bavarian Lager Yeast	Lager	Slant	200 ml	White Labs
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