

Marcowe

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **25**
- SRM **10.3**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **14.6 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **69 C**, Time **70 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **73.9C**
- Add grains
- Keep mash **70 min** at **69C**
- Keep mash **5 min** at **78C**
- Sparge using **2.6 liter(s)** of **76C** water or to achieve **14.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	1.5 kg (50%)	81 %	4
Grain	Strzegom Monachijski typ II	0.6 kg (20%)	79 %	22
Grain	Strzegom Monachijski typ I	0.5 kg (16.7%)	79 %	16
Grain	Strzegom Karmel 30	0.2 kg (6.7%)	75 %	30
Grain	Strzegom Karmel 150	0.2 kg (6.7%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	10 g	60 min	10 %
Boil	Lublin (Lubelski)	10 g	20 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Slant	800 ml	Mangrove Jack's

Extras

Type	Name	Amount	Use for	Time
Water Agent	chlorek wapnia	4 g	Boil	70 min
Fining	mech irlandzki	3 g	Boil	15 min