

Bismarck

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **40**
- SRM **4.3**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **5.5 liter(s) / kg**
- Mash size **28.6 liter(s)**
- Total mash volume **33.8 liter(s)**

Steps

- Temp **62 C**, Time **180 min**
- Temp **71 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **28.6 liter(s)** of strike water to **65.8C**
- Add grains
- Keep mash **180 min** at **62C**
- Keep mash **30 min** at **71C**
- Keep mash **10 min** at **78C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop MepPilsner	4.7 kg (90.4%)	83 %	5
Grain	Strzegom Monachijski typ I	0.5 kg (9.6%)	79 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Chinook	5 g	90 min	13 %
Boil	Chinook	15 g	15 min	13 %
Boil	Summit	15 g	15 min	17 %
Boil	Centennial	15 g	7 min	10.5 %
Boil	Citra	10 g	7 min	12 %
Boil	Simcoe	10 g	7 min	13.2 %
Aroma (end of boil)	Centennial	20 g	0 min	10.5 %
Aroma (end of boil)	Citra	15 g	0 min	12 %
Aroma (end of boil)	Simcoe	15 g	0 min	13.2 %
Dry Hop	Citra	50 g	2 day(s)	12.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP830 - German Lager Yeast	Lager	Liquid	250 ml	White Labs

Extras

Type	Name	Amount	Use for	Time
Fining	Whirlfloc	2 g	Boil	15 min