

własny 1

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **20**
- SRM **4.3**

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 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

Steps

- Temp **62 C**, Time **20 min**
- Temp **72.5 C**, Time **40 min**
- Temp **76.5 C**, Time **20 min**
- Temp **100 C**, Time **60 min**

Mash step by step

- Heat up **15.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72.5C**
- Keep mash **20 min** at **76.5C**
- Keep mash **60 min** at **100C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	bochemian pilsner	5 kg (96.2%)	--- %	4
Grain	cookie	0.2 kg (3.8%)	--- %	50

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	59 min	7.2 %
Boil	lubelski	25 g	5 min	2.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Lager	Dry	7 g	---