

Kozioł

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **22**
- SRM **27.6**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **18.9 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski typ II	3 kg (47.6%)	74.39 %	65
Grain	Pilsner (Weyermann)	2 kg (31.7%)	82.23 %	7
Grain	Żyto Niesłodowane	1 kg (15.9%)	63 %	14
Grain	Acidulated (Weyermann)	0.1 kg (1.6%)	65.2 %	8
Grain	Caraaroma (Weyermann)	0.1 kg (1.6%)	73.58 %	934
Grain	Jęczmień prażony	0.1 kg (1.6%)	71.79 %	2667

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Herkules	10 g	60 min	20 %
Boil	Saaz	20 g	20 min	3.75 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	300 ml	Fermentis