

Koźlak

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **22**
- SRM **14.8**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **13 %/h**
- Boil size **24 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **23.9 liter(s)**
- Total mash volume **30.2 liter(s)**

Steps

- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **23.9 liter(s)** of strike water to **68.7C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **6.4 liter(s)** of **76C** water or to achieve **24 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Minich	3.8 kg (60.3%)	80.5 %	16
Grain	Monachijski typ II 20-25 EBC Weyermann	0.3 kg (4.8%)	80 %	20
Grain	Pilzneński	1.5 kg (23.8%)	81 %	4
Grain	Caramunich® typ I	0.5 kg (7.9%)	73 %	80
Grain	Strzegom Karmel 300	0.2 kg (3.2%)	70 %	299

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	15 g	60 min	13.9 %
Aroma (end of boil)	Hallertauer Tradition	20 g	0 min	5.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	200 ml	Fermentis