

Koźlak

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **23**
- SRM **15.3**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **10 %**
- Size with trub loss **14.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **20.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **19.8 liter(s)**

Steps

- Temp **50 C**, Time **20 min**
- Temp **64 C**, Time **20 min**
- Temp **73 C**, Time **40 min**

Mash step by step

- Heat up **15.2 liter(s)** of strike water to **54.5C**
- Add grains
- Keep mash **20 min** at **50C**
- Keep mash **20 min** at **64C**
- Keep mash **40 min** at **73C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **20.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	2.3 kg (49.9%)	80.5 %	4
Grain	Monachijski	1 kg (21.7%)	80 %	15
Grain	Strzegom Karmel 150	0.45 kg (9.8%)	75 %	150
Grain	Caraaroma	0.16 kg (3.5%)	78 %	350
Grain	BESTMALZ - Best Vienna	0.7 kg (15.2%)	80.5 %	9

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	tetnanger	55 g	90 min	2.9 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Slant	170 ml	Fermentis