

Koźlak

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **29**
- SRM **13.8**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26.6 liter(s)**

Steps

- Temp **45 C**, Time **1 min**
- Temp **52 C**, Time **15 min**
- Temp **62 C**, Time **25 min**
- Temp **72 C**, Time **15 min**
- Temp **100 C**, Time **20 min**
- Temp **72 C**, Time **25 min**
- Temp **75 C**, Time **1 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **1 min** at **45C**
- Keep mash **15 min** at **52C**
- Keep mash **25 min** at **62C**
- Keep mash **25 min** at **72C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **75C**
- Keep mash **20 min** at **100C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	4 kg (60.2%)	80 %	16
Grain	Pilzneński	2 kg (30.1%)	81 %	4
Grain	Weyermann Caramunich 3	0.25 kg (3.8%)	76 %	150
Grain	Carared	0.25 kg (3.8%)	75 %	39
Grain	Caraaroma	0.15 kg (2.3%)	78 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	28 g	60 min	10 %
Boil	Lublin (Lubelski)	15 g	15 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	11.5 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
Fining	Whirlflock T	1 g	Boil	10 min