

Koźlak

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **24**
- SRM **22.3**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.4 liter(s)**
- Total mash volume **29.9 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **22.4 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski typ II 20-25 EBC Weyermann	4.4 kg (58.8%)	80 %	20
Grain	Strzegom Wiedeński	1.84 kg (24.6%)	79 %	10
Grain	Strzegom Karmel 150	0.64 kg (8.6%)	75 %	150
Grain	Strzegom Karmel 600	0.24 kg (3.2%)	68 %	601
Grain	Viking Melanoidynowy	0.36 kg (4.8%)	75 %	60

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Tradition	50 g	60 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	8.8 g	Fermentis