

Koźlak

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **30**
- SRM **14.2**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **8 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **100 min**
- Evaporation rate **12 %/h**
- Boil size **29.5 liter(s)**

Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **32.6 liter(s)**
- Total mash volume **39.9 liter(s)**

Steps

- Temp **62 C**, Time **45 min**
- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **32.6 liter(s)** of strike water to **66.7C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **30 min** at **66C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **4.2 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	2.7 kg (37.2%)	79 %	16
Grain	Pilzneński	2.5 kg (34.5%)	81 %	4
Grain	Viking Pale Ale malt	1.5 kg (20.7%)	80 %	5
Grain	Strzegom Karmel 300	0.25 kg (3.4%)	70 %	299
Grain	Aromatic Malt	0.25 kg (3.4%)	78 %	51
Grain	Weyermann - Dehusked Carafa III	0.05 kg (0.7%)	70 %	1024

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Hallertau Blanc	30 g	80 min	8.7 %
Boil	Tettnang	15 g	20 min	4 %
Aroma (end of boil)	Tettnang	15 g	0 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP838 - Southern German Lager Yeast	Lager	Slant	250 ml	White Labs

Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	3 g	Boil	15 min