

## Koźlak v3

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- Gravity **16.6 BLG**
- ABV ---
- IBU **26**
- SRM **19.7**
- Style **Traditional Bock**

### Batch size

- Expected quantity of finished beer **18.2 liter(s)**
- Trub loss **15 %**
- Size with trub loss **20.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **6 %/h**
- Boil size **25 liter(s)**

### Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **2.78 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **27.2 liter(s)**

### Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **69.6C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Sparge using **12.2 liter(s)** of **76C** water or to achieve **25 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński Weyermann	3 kg (40.3%)	82.23 %	4
Grain	Monachijski Optima	2 kg (26.8%)	79.3 %	19
Grain	Melanoidynowy Weyermann	1 kg (13.4%)	75 %	70
Grain	Pszeniczny Weyermann	0.75 kg (10.1%)	82 %	4
Grain	Karmelowy jasny 100-150 Optima	0.2 kg (2.7%)	72.9 %	140
Grain	Specjalny Special W Weyermann	0.2 kg (2.7%)	73 %	275
Grain	Jęczmień prażony	0.05 kg (0.7%)	55 %	1000
Sugar	Cukier kandyzowany płynny ciemny Brewferm	0.1 kg (1.3%)	66.9 %	200
Sugar	Cukier kandyzowany kryształ jasny	0.15 kg (2%)	78.3 %	1

### Hops

Use for	Name	Amount	Time	Alpha acid
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Boil	Hallertauer Tradition	35 g	60 min	4.5 %
Boil	Hallertauer Mittelfruh	35 g	40 min	3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-189	Lager	Slant	500 ml	Fermentis