

# Kozlak I

- Gravity **16.7 BLG**
- ABV ---
- IBU **29**
- SRM **22.4**
- 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 **15 %/h**
- Boil size **24.1 liter(s)**

## Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **50 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **14.1 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **50 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.5 kg (61.9%)	80 %	4
Grain	Strzegom Monachijski typ II	1.5 kg (26.5%)	79 %	22
Grain	Strzegom Karmel 300	0.3 kg (5.3%)	70 %	299
Grain	Melanoiden Malt	0.2 kg (3.5%)	80 %	39
Grain	Strzegom Czekoladowy 400	0.1 kg (1.8%)	68 %	400
Grain	Strzegom Karmel 600	0.05 kg (0.9%)	68 %	601

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	10.6 %
Boil	Marynka	20 g	10 min	9.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM31 Bawarska Dolina	Lager	Slant	50 ml	Fermentum Mobile
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