

## #77 KOZŁAK

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **26**
- SRM **16.2**
- 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 **73 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.2 liter(s)**
- Total mash volume **25.6 liter(s)**

### Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **77 C**, Time **5 min**

### Mash step by step

- Heat up **19.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **12.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.5 kg (54.7%)	80 %	4
Grain	Strzegom Monachijski typ II	2 kg (31.3%)	79 %	22
Grain	Melanoiden Malt	0.2 kg (3.1%)	80 %	39
Grain	Caraaroma	0.4 kg (6.3%)	78 %	400
Grain	caramel	0.3 kg (4.7%)	78 %	8

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	7.8 %
Boil	East Kent Goldings	15 g	10 min	5.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	300 ml	Fermentis

### Extras

Type	Name	Amount	Use for	Time
------	------	--------	---------	------

Fining	whirfloc	1 g	Boil	10 min
--------	----------	-----	------	--------