

# kozel

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **27**
- SRM **17**
- 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 **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

## Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.6 liter(s)**
- Total mash volume **23.9 liter(s)**

## Steps

- Temp **63 C**, Time **15 min**
- Temp **73 C**, Time **45 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **18.6 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **15 min** at **63C**
- Keep mash **45 min** at **73C**
- Keep mash **5 min** at **76C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (56.6%)	80 %	4
Grain	Strzegom Monachijski typ I	1.5 kg (28.3%)	79 %	16
Grain	Strzegom Karmel 30	0.3 kg (5.7%)	75 %	30
Grain	Strzegom Karmel 150	0.3 kg (5.7%)	75 %	150
Grain	Czekoladowy	0.2 kg (3.8%)	60 %	788

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	26 g	70 min	5.7 %
Boil	Lublin (Lubelski)	35 g	20 min	4.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
w34/70	Lager	Slant	200 ml	fermentis

## Extras

Type	Name	Amount	Use for	Time
Fining	wirf;ock	1 g	Boil	10 min