

Kozlak

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **32**
- SRM **9.8**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.1 liter(s)**
- Total mash volume **12.1 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **9.1 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **9.1 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	słód monachijski	1.8 kg (59.6%)	80 %	13.5
Grain	Słód Pilzneński	1 kg (33.1%)	80 %	4
Grain	Caramunich® typ I	0.1 kg (3.3%)	73 %	80
Grain	Karmelowy Czerwony	0.06 kg (2%)	75 %	59
Grain	Caraaroma	0.06 kg (2%)	78 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	13 g	60 min	7.3 %
Boil	Sybilla	10 g	60 min	6.1 %
Boil	Lublin (Lubelski)	9 g	15 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
w34/70	Lager	Slant	150 ml	---