

Kozlak

- Gravity **20 BLG**
- ABV **8.8 %**
- IBU **22**
- SRM **15.5**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **28.8 liter(s)**
- Total mash volume **38.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **28.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **11.2 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Munich Malt	4 kg (41.7%)	78 %	18
Grain	Optima Karmel 150	0.6 kg (6.3%)	75 %	150
Grain	Strzegom Monachijski typ I	5 kg (52.1%)	79 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Lublin (Lubelski)	50 g	5 min	4 %
Boil	Marynka	30 g	60 min	8.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
CP18	Lager	Slant	400 ml	---