

koza

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **24**
- SRM **19.3**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **13 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **10.9 liter(s)**
- Total mash volume **14.2 liter(s)**

Steps

- Temp **51 C**, Time **15 min**
- Temp **63 C**, Time **15 min**
- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **10.9 liter(s)** of strike water to **55.7C**
- Add grains
- Keep mash **15 min** at **51C**
- Keep mash **15 min** at **63C**
- Keep mash **45 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **5.4 liter(s)** of **76C** water or to achieve **13 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (60.6%)	81 %	4
Grain	Monachijski typ II 20-25 EBC Weyermann	1 kg (30.3%)	80 %	20
Grain	Viking Wędzony torfem	0.1 kg (3%)	81 %	7
Grain	Strzegom Karmel 600	0.2 kg (6.1%)	68 %	601

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Tradition	10 g	60 min	5 %
Boil	Marynka	10 g	30 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
BrewGO Lager	Lager	Dry	11 g	Browin