

Kozlak

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **22**
- SRM **14.8**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **13 %/h**
- Boil size **24 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **23.9 liter(s)**
- Total mash volume **30.2 liter(s)**

Steps

- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **23.9 liter(s)** of strike water to **68.7C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **6.4 liter(s)** of **76C** water or to achieve **24 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------------------|----------------|--------|-----|
| Grain | BESTMALZ - Best Minich | 3.8 kg (60.3%) | 80.5 % | 16 |
| Grain | Monachijski typ II 20-25 EBC Weyermann | 0.3 kg (4.8%) | 80 % | 20 |
| Grain | Pilzneński | 1.5 kg (23.8%) | 81 % | 4 |
| Grain | Caramunich® typ I | 0.5 kg (7.9%) | 73 % | 80 |
| Grain | Strzegom Karmel 300 | 0.2 kg (3.2%) | 70 % | 299 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 15 g | 60 min | 13.9 % |
| Aroma (end of boil) | Hallertauer Tradition | 20 g | 0 min | 5.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 200 ml | Fermentis |