

Koźlak

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **37**
- SRM **9.5**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **8 %**
- Size with trub loss **22.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.3 liter(s)**
- Total mash volume **23 liter(s)**

Steps

- Temp **54 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **17.3 liter(s)** of strike water to **59.7C**
- Add grains
- Keep mash **10 min** at **54C**
- Keep mash **40 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|-----------------|-------|-----|
| Grain | Pilzneński | 2.75 kg (47.8%) | 81 % | 4 |
| Grain | Viking Pale Ale malt | 1 kg (17.4%) | 80 % | 5 |
| Grain | Strzegom Wiedeński | 1 kg (17.4%) | 79 % | 10 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (8.7%) | 79 % | 16 |
| Grain | Weyermann Caramunich 3 | 0.5 kg (8.7%) | 76 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|----------|--------|--------|------------|
| First Wort | Magnat | 30 g | 50 min | 11.2 % |
| Boil | tetnager | 10 g | 20 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------|-------|------|--------|------------------------------------|
| Saflager S-23 | Lager | Dry | 11 g | Fermentis Division of S.I.Lesaffre |