

Koźlak

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **29**
- SRM **13.8**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26.6 liter(s)**

Steps

- Temp **45 C**, Time **1 min**
- Temp **52 C**, Time **15 min**
- Temp **62 C**, Time **25 min**
- Temp **72 C**, Time **15 min**
- Temp **100 C**, Time **20 min**
- Temp **72 C**, Time **25 min**
- Temp **75 C**, Time **1 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **1 min** at **45C**
- Keep mash **15 min** at **52C**
- Keep mash **25 min** at **62C**
- Keep mash **25 min** at **72C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **75C**
- Keep mash **20 min** at **100C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Monachijski | 4 kg (60.2%) | 80 % | 16 |
| Grain | Pilzneński | 2 kg (30.1%) | 81 % | 4 |
| Grain | Weyermann Caramunich 3 | 0.25 kg (3.8%) | 76 % | 150 |
| Grain | Carared | 0.25 kg (3.8%) | 75 % | 39 |
| Grain | Caraaroma | 0.15 kg (2.3%) | 78 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Marynka | 28 g | 60 min | 10 % |
| Boil | Lublin (Lubelski) | 15 g | 15 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------|-------------|-------------|---------------|-------------------|
| Saflager W 34/70 | Lager | Dry | 11.5 g | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|--------------|---------------|----------------|-------------|
| Fining | Whirlflock T | 1 g | Boil | 10 min |