

Koźlak

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **30**
- SRM **14.2**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **8 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **100 min**
- Evaporation rate **12 %/h**
- Boil size **29.5 liter(s)**

Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **32.6 liter(s)**
- Total mash volume **39.9 liter(s)**

Steps

- Temp **62 C**, Time **45 min**
- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **32.6 liter(s)** of strike water to **66.7C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **30 min** at **66C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **4.2 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------------|----------------|-------|------|
| Grain | Strzegom Monachijski typ I | 2.7 kg (37.2%) | 79 % | 16 |
| Grain | Pilzneński | 2.5 kg (34.5%) | 81 % | 4 |
| Grain | Viking Pale Ale malt | 1.5 kg (20.7%) | 80 % | 5 |
| Grain | Strzegom Karmel 300 | 0.25 kg (3.4%) | 70 % | 299 |
| Grain | Aromatic Malt | 0.25 kg (3.4%) | 78 % | 51 |
| Grain | Weyermann - Dehusked Carafa III | 0.05 kg (0.7%) | 70 % | 1024 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------------|--------|--------|------------|
| First Wort | Hallertau Blanc | 30 g | 80 min | 8.7 % |
| Boil | Tettnang | 15 g | 20 min | 4 % |
| Aroma (end of boil) | Tettnang | 15 g | 0 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------------|-------------|-------------|---------------|-------------------|
| WLP838 - Southern German Lager Yeast | Lager | Slant | 250 ml | White Labs |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|----------------|---------------|----------------|-------------|
| Fining | mech irlandzki | 3 g | Boil | 15 min |