

koźlak 3 #81

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **18**
- SRM **14**
- Style **Traditional Bock**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **13.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------------|----------------|-------|-----|
| Grain | Monachijski | 2 kg (43.5%) | 80 % | 16 |
| Grain | Strzegom Wiedeński | 1.5 kg (32.6%) | 79 % | 10 |
| Grain | monachijski ciemny | 1 kg (21.7%) | --- % | 22 |
| Grain | Strzegom Czekoladowy jasny | 0.1 kg (2.2%) | 68 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil | Tradition | 22 g | 60 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------|-------|------|--------|------------|
| w34/70 | Lager | Dry | 22 g | --- |