

koźlak

- Gravity **20.2 BLG**
- ABV **8.9 %**
- IBU **21**
- SRM **18.3**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **19.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **16.9 liter(s)**
- Total mash volume **23.6 liter(s)**

Steps

- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **50 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.9 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **50 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **19.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Strzegom Monachijski typ II | 2 kg (29.6%) | 79 % | 22 |
| Grain | Strzegom Wiedeński | 4 kg (59.3%) | 79 % | 10 |
| Grain | Weyermann - Melanoiden Malt | 0.25 kg (3.7%) | 81 % | 70 |
| Grain | Strzegom Czekoladowy jasny | 0.1 kg (1.5%) | 68 % | 400 |
| Grain | Viking Pale Ale malt | 0.3 kg (4.4%) | 80 % | 5 |
| Grain | Strzegom Karmel 600 | 0.1 kg (1.5%) | 68 % | 601 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil | Tradition | 35 g | 60 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------------------|-------|------|--------|-----------------|
| Mangrove Jack's M84 Bohemian Lager | Lager | Dry | 11 g | Mangrove Jack's |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------|--------|---------|-------|
| Fining | mech | 5 g | Boil | 5 min |