

# kozel

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **27**
- SRM **17**
- 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 **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

## Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.6 liter(s)**
- Total mash volume **23.9 liter(s)**

## Steps

- Temp **63 C**, Time **15 min**
- Temp **73 C**, Time **45 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **18.6 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **15 min** at **63C**
- Keep mash **45 min** at **73C**
- Keep mash **5 min** at **76C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński        | 3 kg (56.6%)   | 80 %  | 4   |
| Grain | Strzegom Monachijski typ I | 1.5 kg (28.3%) | 79 %  | 16  |
| Grain | Strzegom Karmel 30         | 0.3 kg (5.7%)  | 75 %  | 30  |
| Grain | Strzegom Karmel 150        | 0.3 kg (5.7%)  | 75 %  | 150 |
| Grain | Czekoladowy                | 0.2 kg (3.8%)  | 60 %  | 788 |

## Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Sybilla           | 26 g   | 70 min | 5.7 %      |
| Boil    | Lublin (Lubelski) | 35 g   | 20 min | 4.3 %      |

## Yeasts

| Name   | Type  | Form  | Amount | Laboratory |
|--------|-------|-------|--------|------------|
| w34/70 | Lager | Slant | 200 ml | fermentis  |

## Extras

| Type   | Name     | Amount | Use for | Time   |
|--------|----------|--------|---------|--------|
| Fining | wirf;ock | 1 g    | Boil    | 10 min |