

# Czorny murzin

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **46**
- SRM **36.1**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **74 C**, Time **15 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **74C**
- Sparge using **11.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                    | Amount       | Yield | EBC |
|-------|-------------------------|--------------|-------|-----|
| Grain | Biscuit Malt            | 2 kg (28.6%) | 79 %  | 45  |
| Grain | Briess - Chocolate Malt | 1 kg (14.3%) | 60 %  | 690 |
| Grain | CastleMalting diastatic | 2 kg (28.6%) | 80 %  | 3   |
| Grain | Strzegom Pilzneński     | 1 kg (14.3%) | 80 %  | 4   |
| Sugar | Milk Sugar (Lactose)    | 1 kg (14.3%) | 76 %  | 0   |

## Hops

| Use for | Name  | Amount | Time   | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil    | Perle | 50 g   | 60 min | 7 %        |
| Boil    | Perle | 30 g   | 30 min | 7 %        |

## Yeasts

| Name             | Type  | Form  | Amount | Laboratory |
|------------------|-------|-------|--------|------------|
| Saflager W 34/70 | Lager | Slant | 200 ml | Fermentis  |

## Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

|        |                             |      |           |           |
|--------|-----------------------------|------|-----------|-----------|
| Flavor | Płatki z beczki po<br>łiski | 50 g | Secondary | 21 day(s) |
|--------|-----------------------------|------|-----------|-----------|