

# Mroki

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **37**
- SRM **45.4**
- Style **Dry Stout**

## Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

## Fermentables

| Type  | Name                         | Amount        | Yield | EBC  |
|-------|------------------------------|---------------|-------|------|
| Grain | Briess - Pale Ale Malt       | 2 kg (44.4%)  | 80 %  | 7    |
| Grain | Strzegom Monachijski typ II  | 1 kg (22.2%)  | 79 %  | 22   |
| Grain | kawowy jasny                 | 0.3 kg (6.7%) | 75 %  | 250  |
| Grain | Carafa III                   | 0.3 kg (6.7%) | 70 %  | 1300 |
| Grain | Strzegom Barwiący            | 0.1 kg (2.2%) | 68 %  | 1300 |
| Grain | Płatki owsiane               | 0.3 kg (6.7%) | 85 %  | 3    |
| Grain | Pszenica niesłodowana        | 0.3 kg (6.7%) | 75 %  | 3    |
| Grain | Briess - Dark Chocolate Malt | 0.2 kg (4.4%) | 60 %  | 827  |

## Hops

| Use for | Name   | Amount | Time   | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil    | Nugget | 15 g   | 60 min | 13 %       |
| Boil    | Nugget | 10 g   | 20 min | 13 %       |

## Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US 04 | Ale  | Dry  | 11.5 g | ---        |

## Extras

| Type  | Name  | Amount | Use for   | Time     |
|-------|-------|--------|-----------|----------|
| Spice | tonka | 5 g    | Secondary | 2 day(s) |