

# Świąteczne ciemne

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **34**
- SRM **18.1**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

## Steps

- Temp **69 C**, Time **45 min**
- Temp **72 C**, Time **10 min**

## Mash step by step

- Heat up **15.6 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **45 min** at **69C**
- Keep mash **10 min** at **72C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount         | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Pilzneński          | 3 kg (52.5%)   | 81 %  | 4   |
| Grain | Pszeniczny          | 1 kg (17.5%)   | 85 %  | 4   |
| Grain | Strzegom Karmel 150 | 0.5 kg (8.8%)  | 75 %  | 150 |
| Grain | Płatki owsiane      | 0.5 kg (8.8%)  | 85 %  | 3   |
| Grain | Jęczmień palony     | 0.12 kg (2.1%) | 55 %  | 985 |
| Grain | Barwiący            | 0.09 kg (1.6%) | 55 %  | 985 |
| Sugar | Cukier              | 0.5 kg (8.8%)  | --- % | --- |

## Hops

| Use for             | Name              | Amount | Time   | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil                | Marynka           | 30 g   | 60 min | 10 %       |
| Aroma (end of boil) | Lublin (Lubelski) | 30 g   | 15 min | 4 %        |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale T-58 | Ale  | Dry  | 11.5 g | ---        |

## Extras

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

|       |                    |       |      |        |
|-------|--------------------|-------|------|--------|
| Spice | Cukier waniliowy   | 16 g  | Boil | 15 min |
| Spice | Cynamon            | 7 g   | Boil | 15 min |
| Spice | Gałka muszkatołowa | 6 g   | Boil | 15 min |
| Spice | Sliwki suszone     | 300 g | Boil | 15 min |
| Spice | Skórka pomarańczy  | 20 g  | Boil | 15 min |
| Spice | Goździki           | 5 g   | Boil | 15 min |