

## Brown porter

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **16**
- SRM **20.1**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.9 liter(s)**
- Total mash volume **25.6 liter(s)**

### Steps

- Temp **62 C**, Time **20 min**
- Temp **70 C**, Time **50 min**

### Mash step by step

- Heat up **19.9 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **50 min** at **70C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield  | EBC |
|-------|----------------------|----------------|--------|-----|
| Grain | Viking Pale Ale malt | 4.5 kg (78.9%) | 80 %   | 5   |
| Grain | Płatki owsiane       | 0.5 kg (8.8%)  | 85 %   | 3   |
| Grain | Strzegom Karmel 300  | 0.2 kg (3.5%)  | 70 %   | 299 |
| Grain | Jęczmień palony      | 0.2 kg (3.5%)  | 55 %   | 985 |
| Grain | Strzegom Karmel 150  | 0.1 kg (1.8%)  | 75 %   | 150 |
| Grain | Castle Cafe          | 0.1 kg (1.8%)  | 75.5 % | 480 |
| Grain | Aromatic Malt        | 0.1 kg (1.8%)  | 78 %   | 51  |

### Hops

| Use for             | Name               | Amount | Time   | Alpha acid |
|---------------------|--------------------|--------|--------|------------|
| Boil                | Lublin (Lubelski)  | 30 g   | 70 min | 4 %        |
| Aroma (end of boil) | East Kent Goldings | 20 g   | 10 min | 5.1 %      |

### Yeasts

| Name                  | Type | Form   | Amount  | Laboratory       |
|-----------------------|------|--------|---------|------------------|
| FM11 Wichrowe Wzgórza | Ale  | Liquid | 1000 ml | Fermentum Mobile |

### Extras

| Type  | Name             | Amount | Use for   | Time     |
|-------|------------------|--------|-----------|----------|
| Spice | skórka pom.      | 30 g   | Boil      | 0 min    |
| Spice | laska wanilii    | 1 g    | Secondary | 3 day(s) |
| Spice | sok z pomarańczy | 3 g    | Secondary | 3 day(s) |