

## Robust porter

- Gravity **14.4 BLG**
- ABV ---
- IBU **24**
- SRM **36.9**
- Style **Brown Porter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **64 C**, Time **20 min**
- Temp **68 C**, Time **40 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **20 min** at **64C**
- Keep mash **40 min** at **68C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Strzegom Karmel 600        | 0.5 kg (9.5%)  | 68 %  | 601 |
| Grain | Pilzneński                 | 3 kg (57.1%)   | 81 %  | 4   |
| Grain | Biscuit Malt               | 1 kg (19%)     | 79 %  | 45  |
| Grain | Caraaroma                  | 0.25 kg (4.8%) | 78 %  | 400 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (9.5%)  | 79 %  | 16  |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Lublin (Lubelski) | 30 g   | 60 min | 4 %        |
| Boil    | Lublin (Lubelski) | 30 g   | 40 min | 4 %        |

### Yeasts

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

### Extras

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

|        |   |      |           |          |
|--------|---|------|-----------|----------|
| Flavor | chipsy z dębu francuskiego średnio opiekane | 50 g | Secondary | 7 day(s) |
|--------|---|------|-----------|----------|