

## Belgian stout

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **34**
- SRM **28.5**
- Style **Dry Stout**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12.5 liter(s)**
- Total mash volume **17.5 liter(s)**

### Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **12.5 liter(s)** of strike water to **71.6C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

| Type  | Name                             | Amount       | Yield | EBC  |
|-------|----------------------------------|--------------|-------|------|
| Grain | Simpsons - Maris Otter           | 4 kg (79.2%) | 81 %  | 6    |
| Grain | Fawcett - Crystal                | 0.25 kg (5%) | 70 %  | 160  |
| Grain | Jęczmień palony                  | 0.25 kg (5%) | 55 %  | 985  |
| Grain | Płatki owsiane                   | 0.25 kg (5%) | 60 %  | 3    |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.25 kg (5%) | 73 %  | 1001 |
| Sugar | Cukier biały                     | 0.05 kg (1%) | 100 % | ---  |

### Hops

| Use for | Name                | Amount | Time   | Alpha acid |
|---------|---------------------|--------|--------|------------|
| Boil    | Hallertau Tradition | 50 g   | 60 min | 5 %        |
| Boil    | Styrian Golding     | 50 g   | 10 min | 3.6 %      |

### Yeasts

| Name                            | Type | Form | Amount | Laboratory      |
|---------------------------------|------|------|--------|-----------------|
| Mangrove Jack's M41 Belgian Ale | Ale  | Dry  | 10 g   | Mangrove Jack's |