

## Belgian stout

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- 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