

## 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)