

## brązowy porter

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **25**
- SRM **22.6**
- Style **Brown Porter**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.9 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11 liter(s)**
- Total mash volume **14.2 liter(s)**

### Steps

- Temp **66 C**, Time **50 min**
- Temp **73 C**, Time **10 min**

### Mash step by step

- Heat up **11 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **50 min** at **66C**
- Keep mash **10 min** at **73C**
- Sparge using **8.1 liter(s)** of **76C** water or to achieve **15.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	2.2 kg (69.8%)	85 %	7
Grain	Monachijski typ I	0.5 kg (15.9%)	78 %	14.5
Grain	Weyermann - Carafa I	0.1 kg (3.2%)	70 %	690
Grain	Fawcett - Brown	0.25 kg (7.9%)	72 %	180
Grain	Słód pszeniczny czekoladowy	0.1 kg (3.2%)	--- %	900

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	20 g	60 min	4.5 %
Aroma (end of boil)	Fuggles	20 g	15 min	4.5 %
Aroma (end of boil)	Fuggles	10 g	1 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale