

## Brown Porter (z kakaowcem)

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **12**
- SRM **31.8**
- Style **Brown Porter**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **22.1 liter(s)**
- Total mash volume **28.4 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **22.1 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.7 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pale ale	4.5 kg (71.4%)	80 %	22
Grain	Strzegom Monachijski typ II	1 kg (15.9%)	79 %	22
Grain	cararoma	0.2 kg (3.2%)	80 %	400
Grain	pszeniczny czekol 800-1200	0.5 kg (7.9%)	80 %	800
Grain	Carafa II	0.1 kg (1.6%)	70 %	812

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	30 g	60 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

### Extras

Type	Name	Amount	Use for	Time
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Flavor	Ziarna kakaowca	500 g	Boil	10 min
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