

Marynarz

- Gravity **12.3 BLG**
- ABV ---
- IBU **37**
- SRM **28.9**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **25.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **67 C**, Time **90 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	3.5 kg (77.8%)	80 %	4
Grain	Brown Malt (British Chocolate)	0.5 kg (11.1%)	70 %	128
Grain	Fawcett - Crystal	0.4 kg (8.9%)	74 %	400
Grain	Chocolate Malt (UK)	0.1 kg (2.2%)	73 %	887

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	55 g	60 min	5.1 %
Aroma (end of boil)	Fuggles	20 g	10 min	5.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

Notes

- Słód Chocolate dodany na ostatnie 10 minut.
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