

# Porter angielski Piwowar nr 47 troche przerobiony

- Gravity **9.5 BLG**
- ABV **3.7 %**
- IBU **28**
- SRM **26.1**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **7.4 liter(s)**
- Total mash volume **9.5 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **7.4 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **7.4 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód jęczmienny Maris Otter Pale Ale 5-7,5 EBC Thomas Fawcett	1.7 kg (81%)	80 %	6
Grain	Red Crystal 350-450 EBC Thomas Fawcett	0.15 kg (7.1%)	70 %	400
Grain	Fawcett - Crystal	0.1 kg (4.8%)	70 %	160
Grain	Wayerman - Pszeniczny Czekoladowy	0.05 kg (2.4%)	73 %	1001
Grain	Jęczmień palony	0.1 kg (4.8%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	10 g	80 min	7 %
Boil	East Kent Goldings	10 g	20 min	5.1 %
Aroma (end of boil)	East Kent Goldings	10 g	5 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM13 Irlandzkie Ciemności	Ale	Slant	0.3 ml	Fermentum Mobile
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