

# Porter angielski

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **31**
- SRM **22**
- 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 **75 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **8 liter(s)**
- Total mash volume **10.5 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **8 liter(s)** of strike water to **74.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **1 min** at **78C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	2.2 kg (88%)	79 %	6
Grain	Strzegom Karmel 300	0.2 kg (8%)	70 %	299
Grain	Strzegom Czekoladowy ciemny	0.05 kg (2%)	68 %	1200
Grain	Jęczmień palony	0.05 kg (2%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	15 g	60 min	7 %
Boil	Fuggles	7.5 g	20 min	4.5 %
Boil	Fuggles	7.5 g	10 min	4.5 %

## Yeasts

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