

# Porter angielski

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **37**
- SRM **24.5**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.8 liter(s)**
- Total mash volume **25 liter(s)**

## Steps

- Temp **50 C**, Time **30 min**
- Temp **68 C**, Time **60 min**
- Temp **73 C**, Time **15 min**
- Temp **77 C**, Time **2 min**

## Mash step by step

- Heat up **18.8 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **73C**
- Keep mash **2 min** at **77C**
- Sparge using **19.2 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ II	3 kg (48%)	79 %	22
Grain	Strzegom Wiedeński	2 kg (32%)	79 %	10
Grain	Strzegom Karmel 150	1 kg (16%)	75 %	150
Grain	Strzegom Czekoladowy ciemny	0.25 kg (4%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Merkur	30 g	60 min	14 %

## Yeasts

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