

# Porter Angielski

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **31**
- SRM **13.7**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **24.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **16.8 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **12.9 liter(s)** of strike water to **74.1C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **24.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.6 kg (92.3%)	85 %	7
Grain	Caraaroma	0.2 kg (5.1%)	78 %	400
Grain	Carafa	0.1 kg (2.6%)	70 %	664

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pioneer	20 g	5 min	8.8 %
Aroma (end of boil)	Pioneer	10 g	50 min	8.8 %
Aroma (end of boil)	Willamette	30 g	60 min	4.5 %

## Yeasts

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