

# PORTER ANGIELSKI

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **26**
- SRM **21.5**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **4 %**
- Size with trub loss **26 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **21.5 liter(s)**

## Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **70.7C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **30 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	2 kg (40%)	80 %	5
Grain	Wiedeński	2 kg (40%)	79 %	10
Grain	Brown	0.5 kg (10%)	72 %	180
Grain	Pale Chocolate	0.5 kg (10%)	71 %	600

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggle	25 g	60 min	5.9 %
Boil	Fuggle	25 g	30 min	5.9 %

## Yeasts

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