

PORTER ANGIELSKI

- 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 |