

# pierwszy stout

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **30**
- SRM **29.7**
- Style **Dry Stout**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

## Steps

- Temp **68 C**, Time **0 min**
- Temp **68 C**, Time **50 min**
- Temp **72 C**, Time **5 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **15.6 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **50 min** at **68C**
- Keep mash **0 min** at **68C**
- Keep mash **5 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (57.7%)	80 %	5
Grain	Viking Munich Malt	1 kg (19.2%)	78 %	22
Grain	Płatki owsiane	0.6 kg (11.5%)	60 %	3
Grain	Carafa III	0.2 kg (3.8%)	70 %	1400
Grain	Strzegom Czekoladowy jasny	0.25 kg (4.8%)	68 %	400
Grain	Jęczmień palony	0.15 kg (2.9%)	55 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	60 min	10 %
Whirlpool	Lublin (Lubelski)	25 g	10 min	4 %

## Yeasts

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