

## Pierwszy stout

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **39**
- SRM **37**
- Style **Dry Stout**

### Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **30 min**
- Evaporation rate **12.5 %/h**
- Boil size **16.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.8 liter(s)**
- Total mash volume **13.9 liter(s)**

### Steps

- Temp **65 C**, Time **90 min**
- Temp **75 C**, Time **10 min**

### Mash step by step

- Heat up **10.8 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **90 min** at **65C**
- Keep mash **10 min** at **75C**
- Sparge using **8.6 liter(s)** of **76C** water or to achieve **16.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.85 kg (59.9%)	80 %	5
Grain	Strzegom Czekoladowy 1200	0.12 kg (3.9%)	68 %	1202
Grain	Strzegom Karmel 600	0.12 kg (3.9%)	68 %	601
Grain	Jęczmień palony	0.3 kg (9.7%)	55 %	985
Grain	Strzegom Pszeniczny	0.15 kg (4.9%)	81 %	6
Grain	płatki jęczmienne	0.55 kg (17.8%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	16 g	30 min	15.7 %
Boil	Columbus/Tomahawk/Zeus	4 g	15 min	15.5 %
Dry Hop	Columbus/Tomahawk/Zeus	10 g	3 day(s)	15.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	5.5 g	Safale