

## stout 1

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- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **36**
- SRM **37.6**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **10 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **32.2 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **30.8 liter(s)**

### Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **23.1 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale	4 kg (51.9%)	80 %	6
Grain	Strzegom Monachijski typ II	2.5 kg (32.5%)	79 %	22
Grain	Caraaroma	0.5 kg (6.5%)	78 %	400
Grain	Czekoladowy bestmalz	0.3 kg (3.9%)	68 %	900
Grain	Jęczmień palony	0.2 kg (2.6%)	55 %	985
Grain	Strzegom Barwiący	0.2 kg (2.6%)	68 %	1300

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum goryczkowy	30 g	60 min	11.5 %
Boil	Magnum goryczkowy	15 g	20 min	11.5 %
Boil	Saaz (Czech Republic)	20 g	10 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
fermentium mobile	Lager	Slant	100 ml	---