

## Stout\_v9 #99

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **55**
- SRM **34.2**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **19.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **14 %/h**
- Boil size **24.6 liter(s)**

### Mash information

- Mash efficiency **75.2 %**
- Liquor-to-grist ratio **3.33 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.9 liter(s)**

### Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **75 C**, Time **7 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **74C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **10.6 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	3 kg (50.1%)	82.1 %	5.5
Grain	płatki owsiane	0.188 kg (3.1%)	83 %	3
Grain	Viking - monachijski I	2.035 kg (34%)	79 %	16
Grain	Viking - karmelowy 300	0.3 kg (5%)	73 %	300
Grain	Fawcett - czekoladowy pszeniczny	0.26 kg (4.3%)	72.7 %	1000
Grain	Viking - palony jęczmień	0.085 kg (1.4%)	73 %	1000
Grain	Wyermand - Carafa II special	0.124 kg (2.1%)	65 %	1150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	35 g	60 min	8.8 %
Aroma (end of boil)	Sybilla szyszka mokra	55 g	10 min	6 %

220 gr mokrej szyszki (mrożonej), ekwiwalent 55 gr suchej

Aroma (end of boil)	Perle szyszka mokra	25 g	10 min	6 %
100 gr mokrej szyszki (mrożonej), ekwiwalent 25 gr suchej				
Aroma (end of boil)	Cascade US	15 g	10 min	7.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	175 ml	Fermentum Mobile
gęstwa 15-dniowa				

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	1.5 g	Mash	---
Water Agent	węglan wapnia	7 g	Mash	---
Water Agent	sól epsom	1 g	Mash	---
Water Agent	kwask mlekowy [ml]	3.11 g	Mash	---
Water Agent	chlerek wapnia [ml]	0 g	Mash	---
Fining	mech irlandzki	3 g	Boil	10 min