

## Stout\_v10 #103

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- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **60**
- SRM **36.4**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **19.8 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **17.2 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **71.6 %**
- Liquor-to-grist ratio **3.28 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26.1 liter(s)**

### Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **77 C**, Time **7 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **74.2C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **12.6 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	3 kg (49.2%)	82.1 %	5.5
Grain	Viking - monachijski I	1.5 kg (24.6%)	79 %	16
Grain	Viking - monachijski II	0.518 kg (8.5%)	78 %	22
Grain	Chateau - Cara Gold	0.26 kg (4.3%)	78 %	120
Grain	Viking - karmelowy 300	0.3 kg (4.9%)	73 %	300
Grain	Fawcett - czekoladowy pszeniczny	0.164 kg (2.7%)	72.7 %	1000
Grain	Viking - czekoladowy jęczmienny	0.15 kg (2.5%)	67 %	900
Grain	Wyermann - Carafa II special	0.2 kg (3.3%)	65 %	1150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	35 g	60 min	8.8 %
Aroma (end of boil)	Chinook US	30 g	10 min	12.8 %

Aroma (end of boil)	Sybilla szyszka mokra	100 g	5 min	6 %
400 gr mokrej szyszki (mrożonej), ekwiwalent 100 gr suchej				

## 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