

## Stout v7\_gruszka v2 #97

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **49**
- SRM **37.6**
- 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 **85 min**
- Evaporation rate **14 %/h**
- Boil size **25.2 liter(s)**

### Mash information

- Mash efficiency **77.3 %**
- Liquor-to-grist ratio **3.78 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.3 liter(s)**

### Steps

- Temp **66 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 **72.1C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **10.5 liter(s)** of **76C** water or to achieve **25.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	3.2 kg (57.8%)	82.1 %	5.5
Grain	Viking - monachijski II	1 kg (18.1%)	79 %	22
Grain	Weyermann - Abbey	0.5 kg (9%)	75 %	45
Grain	Fawcett - czekoladowy pszeniczny	0.3 kg (5.4%)	72.7 %	1200
Grain	Chateau - black	0.033 kg (0.6%)	73 %	1350
Grain	Viking - palony jęczmień	0.267 kg (4.8%)	73 %	1000
Adjunct	gruszka wędzona	0.235 kg (4.2%)	28 %	---

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	8.8 %
Aroma (end of boil)	Perle szyszka mokra	25 g	10 min	6 %
ok 100 g mokrej szyszki, przeliczonej na ekwiwalent granulatu jako 25 g				
Aroma (end of boil)	Sybilla szyszka mokra	60 g	10 min	6 %

ok 240 g mokrej szyszki, przeliczonej na ekwiwalent granulatu jako 60 g

## Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	140 ml	Fermentum Mobile

## 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]	3.03 g	Mash	---
Water Agent	chlerek wapnia [ml]	0 g	Mash	---
Fining	mech irlandzki	3 g	Boil	5 min
Flavor	gruszka wędzona	236 g	Boil	10 min