Stout_v13 #128

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **49**
- SRM **32.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **19.2 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **18.8 %/h**
- Boil size **24.9 liter(s)**

Mash information

- Mash efficiency **82.9 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **24.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale - viking	2.6 kg *(52.1%)*	80 %	5.5
Grain	monachijski I - viking	1.15 kg *(23%)*	78 %	16
Grain	monachijski II - viking	0.55 kg *(11%)*	78 %	22
Grain	karmelowy 300 - viking	0.3 kg *(6%)*	73 %	300
Grain	czekoladowy pszeniczny - fawcett	0.2 kg *(4%)*	72.7 %	1050
Grain	Jęczmień palony - viking	0.08 kg *(1.6%)*	55 %	985
Grain	Carafa III special - weyermann	0.11 kg *(2.2%)*	65 %	1400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	8 %
Aroma (end of boil)	Sybilla szyszka mokra	60 g	10 min	6 %
240 gr mokrej szyszki (mrożonej), ekwiwalent 60 gr suchej				

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Aroma (end of boil)	Perle szyszka mokra	30 g	10 min	6 %
120 gr mokrej szyszki (mrożonej), ekwiwalent 30 gr suchej				

Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	150 ml	Fermentum Mobile
gęstwa 14-dniowa				

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	1.5 g	Mash	---
Water Agent	węglan wapnia	5.5 g	Mash	---
Water Agent	sól epsom	1 g	Mash	---
Water Agent	kwas mlekowy [ml]	3.11 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Fining	mech irlandzki	3 g	Boil	10 min
Water Agent	kwas askorbinowy	0 g	Bottling	---