Stout_v18 #148

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **57**
- SRM **33.8**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20.2 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **20.4 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **84.5 %**
- Liquor-to-grist ratio **2.92 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20.2 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 **72.7C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	pale ale - viking	2.6 kg *(50.5%)*	80 %	5.5
Grain	monachijski I - viking	1.15 kg *(22.3%)*	78 %	16
Grain	monachijski II - viking	0.55 kg *(10.7%)*	78 %	22
Grain	karmelowy 300 - viking	0.25 kg *(4.9%)*	70 %	300
Grain	chocolate pale - fawcett	0.3 kg *(5.8%)*	70 %	625
Grain	czekoladowy jęczmienny - viking	0.11 kg *(2.1%)*	67 %	900
Grain	palony jęczmień - viking	0.08 kg *(1.6%)*	73 %	1000
Grain	carafa III special - weyermann	0.11 kg *(2.1%)*	65 %	1400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	26.5 g	60 min	11.5 %
Aroma (end of boil)	Sybilla szyszka mokra	30 g	10 min	7 %

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

120 gr mokrej szyszki (mrożonej), ekwiwalent 30 gr suchej				
Aroma (end of boil)	Perle szyszka mokra	60 g	10 min	7 %
240 gr mokrej szyszki (mrożonej), ekwiwalent 60 gr suchej				

Yeasts

Name	Type	Form	Amount	Laboratory
WLP090 - San Diego Super Yeast	Ale	Slant	160 ml	White Labs
gęstwa 30-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	---