

## #4. Milk Stout

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **40**
- SRM **32.2**
- Style **Sweet Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.6 liter(s)**
- Total mash volume **18.1 liter(s)**

### Steps

- Temp **67 C**, Time **90 min**

### Mash step by step

- Heat up **13.6 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **90 min** at **67C**
- Sparge using **16.2 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.3 kg (50.9%)	80 %	5
Grain	Strzegom Czekoladowy ciemny	0.15 kg (3.3%)	68 %	1200
Grain	Carafa II	0.15 kg (3.3%)	70 %	812
Grain	Carafa III	0.15 kg (3.3%)	70 %	1034
Grain	Strzegom Karmel 150	0.25 kg (5.5%)	75 %	150
Grain	Strzegom Karmel 300	0.2 kg (4.4%)	70 %	299
Grain	Weyermann Specjal W	0.22 kg (4.9%)	68 %	300
Grain	Strzegom Monachijski typ I	0.45 kg (10%)	79 %	16
Grain	Płatki owsiane	0.65 kg (14.4%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Aroma (end of boil)	Marynka	10 g	15 min	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

Safale S-04	Ale	Dry	11.5 g	Safale
-------------	-----	-----	--------	--------

### Extras

Type	Name	Amount	Use for	Time
Flavor	laktoza	500 g	Boil	15 min