

milk

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **30**
- SRM **30.1**
- 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 **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (30.8%)	81 %	4
Grain	Strzegom Karmel 150	1 kg (15.4%)	75 %	150
Grain	Strzegom Czekoladowy jasny	1 kg (15.4%)	68 %	400
Grain	Viking Pale Ale malt	1 kg (15.4%)	80 %	5
Grain	Monachijski	1 kg (15.4%)	80 %	16
Sugar	Milk Sugar (Lactose)	0.5 kg (7.7%)	76.1 %	0

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Aroma (end of boil)	Marynka	30 g	10 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis