

## #16 Milkźynier

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **25**
- SRM **40**
- Style **Sweet Stout**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

### Steps

- Temp **72 C**, Time **60 min**
- Temp **76 C**, Time **15 min**

### Mash step by step

- Heat up **17.5 liter(s)** of strike water to **79.4C**
- Add grains
- Keep mash **60 min** at **72C**
- Keep mash **15 min** at **76C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (77.7%)	80 %	5
Grain	Strzegom Czekoladowy jasny	0.1 kg (1.9%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.3 kg (5.8%)	68 %	1200
Grain	Jęczmień palony	0.3 kg (5.8%)	55 %	985
Grain	Strzegom Karmel 600	0.3 kg (5.8%)	68 %	601
Sugar	Milk Sugar (Lactose)	0.15 kg (2.9%)	76.1 %	0

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	20 g	60 min	12 %

### Yeasts

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