

Pierwszy Milk Stout

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **30**
- SRM **38.8**
- Style **Sweet Stout**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.1 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **12.1 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **11 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------------|----------------|--------|------|
| Grain | Weyermann - Pale Ale Malt | 1.5 kg (33%) | 85 % | 7 |
| Grain | Briess - Bonlander Munich Malt | 1.5 kg (33%) | 78 % | 20 |
| Sugar | Milk Sugar (Lactose) | 0.5 kg (11%) | 76.1 % | 0 |
| Grain | Caraaroma | 0.4 kg (8.8%) | 78 % | 400 |
| Grain | Simpsons - Roasted Barley | 0.4 kg (8.8%) | 70 % | 1084 |
| Grain | Oats, Flaked | 0.25 kg (5.5%) | 80 % | 2 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 10 g | 60 min | 15.5 % |
| Boil | Lublin (Lubelski) | 15 g | 20 min | 4 % |
| Aroma (end of boil) | Lublin (Lubelski) | 15 g | 10 min | 4 % |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 5 g | 5 min | 15.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|-------------|-------------|---------------|-------------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |