

## #4 Milk Stout Piernik

- Gravity **17.7 BLG**
- ABV **7.6 %**
- IBU **36**
- SRM **39**
- Style **Sweet Stout**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **25.2 liter(s)**
- Total mash volume **32.4 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

### Mash step by step

- Heat up **25.2 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **72C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

| Type  | Name                             | Amount        | Yield  | EBC  |
|-------|----------------------------------|---------------|--------|------|
| Grain | Strzegom Pale Ale                | 3 kg (38.5%)  | 79 %   | 6    |
| Grain | Strzegom Monachijski typ I       | 2 kg (25.6%)  | 79 %   | 16   |
| Grain | Słód pszeniczny Bestmalz         | 1 kg (12.8%)  | 82 %   | 5    |
| Grain | Fawcett - Pale Chocolate         | 0.4 kg (5.1%) | 71 %   | 600  |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.3 kg (3.8%) | 73 %   | 1001 |
| Grain | Weyermann - Carafa II            | 0.3 kg (3.8%) | 70 %   | 1100 |
| Grain | Carahell                         | 0.2 kg (2.6%) | 77 %   | 26   |
| Sugar | Milk Sugar (Lactose)             | 0.6 kg (7.7%) | 76.1 % | 0    |

### Hops

| Use for | Name  | Amount | Time   | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil    | lunga | 40 g   | 60 min | 11 %       |

### Yeasts

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

|             |     |       |        |        |
|-------------|-----|-------|--------|--------|
| Safale S-04 | Ale | Slant | 200 ml | Safale |
|-------------|-----|-------|--------|--------|

### Extras

| Type   | Name                  | Amount | Use for | Time   |
|--------|-----------------------|--------|---------|--------|
| Spice  | Przyprawa do piernika | 20 g   | Boil    | 15 min |
| Spice  | Przyprawa do piernika | 20 g   | Boil    | 10 min |
| Flavor | Skórka pomarańczy     | 20 g   | Boil    | 7 min  |