

# Milki łej

- Gravity **15.4 BLG**
- ABV ---
- IBU **35**
- SRM **50.8**
- Style **Sweet Stout**

## Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **57 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **37.2 liter(s)**
- Total mash volume **49.6 liter(s)**

## Steps

- Temp **62 C**, Time **20 min**
- Temp **75 C**, Time **10 min**
- Temp **68 C**, Time **45 min**

## Mash step by step

- Heat up **37.2 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **45 min** at **68C**
- Keep mash **10 min** at **75C**
- Sparge using **32.2 liter(s)** of **76C** water or to achieve **57 liter(s)** of wort

## Fermentables

| Type  | Name                     | Amount          | Yield  | EBC  |
|-------|--------------------------|-----------------|--------|------|
| Grain | Strzegom Pale Ale        | 5 kg (37.3%)    | 79 %   | 6    |
| Grain | Monachijski              | 1.35 kg (10.1%) | 80 %   | 16   |
| Grain | Special B Malt           | 0.25 kg (1.9%)  | 65.2 % | 400  |
| Grain | Carafa III               | 0.56 kg (4.2%)  | 70 %   | 1400 |
| Grain | Barley, Flaked           | 1 kg (7.5%)     | 70 %   | 4    |
| Grain | Jęczmień palony          | 0.5 kg (3.7%)   | 55 %   | 1150 |
| Grain | Whole Pale Venture       | 0.9 kg (6.7%)   | 75 %   | 4    |
| Grain | Marris Otter             | 0.98 kg (7.3%)  | 75 %   | 7    |
| Grain | Carahell                 | 1.72 kg (12.8%) | 77 %   | 26   |
| Grain | Weyermann - Carabohemian | 0.13 kg (1%)    | 73 %   | 195  |
| Sugar | Milk Sugar (Lactose)     | 1 kg (7.5%)     | 76.1 % | 0    |

## Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Fuggles | 90 g   | 60 min | 4.5 %      |
| Boil    | Fuggles | 75 g   | 55 min | 4.6 %      |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale S-04  | Ale  | Dry  | 11.5 g | Safale     |
| Safale US-05 | Ale  | Dry  | 11.5 g | Safale     |

## Notes

- Carabohemian, Special B, Carafa typ III, palony jęczmień dodane tylko na 68 st. (po 20 min zacierania)

brzeczka do fermentacji podzielona na pół:

Safale S-04

Safale US-05

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