

Lotnicze

- Gravity **10 BLG**
- ABV **4 %**
- IBU **40**
- SRM **3.8**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21.8 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **70 C**, Time **30 min**

Mash step by step

- Heat up **17 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **30 min** at **70C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Pilzneński | 3 kg (61.9%) | 81 % | 4 |
| Grain | Viking Pale Ale malt | 1.5 kg (30.9%) | 80 % | 5 |
| Grain | Strzegom Monachijski typ I | 0.35 kg (7.2%) | 79 % | 16 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|---------------|--------|--------|------------|
| Boil | Citra | 15 g | 60 min | 12 % |
| Whirlpool | Nelson Sauvín | 40 g | 20 min | 11 % |
| Whirlpool | Cascade PL | 40 g | 20 min | 5.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------------------------|-------|--------|---------|------------|
| WLP840 - American Lager Yeast | Lager | Liquid | 2000 ml | White Labs |