

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