

ALE NO BO

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **30**
- SRM **7.3**

Batch size

- Expected quantity of finished beer **13.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **14.2 liter(s)**
- Boil time **45 min**
- Evaporation rate **10 %/h**
- Boil size **16.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **77 C**, Time **2 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **2 min** at **77C**
- Sparge using **8.7 liter(s)** of **76C** water or to achieve **16.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	1 kg (25%)	82 %	4
Grain	Viking Pale Ale malt	2 kg (50%)	80 %	5
Grain	Strzegom Karmel 30	1 kg (25%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	45 min	6.8 %
Aroma (end of boil)	Cascade	20 g	8 min	4 %
Aroma (end of boil)	Lublin (Lubelski)	20 g	8 min	2.8 %
Dry Hop	Cascade	30 g	7 day(s)	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	6 g	Safale