

# Liberty Ale

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **43**
- SRM **4.1**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **28.4 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **13.4 liter(s)** of **76C** water or to achieve **28.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Viking	5.5 kg (91.7%)	80 %	5
Grain	Płatki pszeniczne	0.5 kg (8.3%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	25 g	60 min	13.8 %
Boil	Cascade	20 g	45 min	7.6 %
Aroma (end of boil)	Cascade	30 g	1 min	7.6 %
Dry Hop	Cascade	50 g	3 day(s)	7.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	150 ml	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Siarczan wapnia	6 g	Boil	60 min
Water Agent	Chlorek wapnia	3 g	Boil	60 min
Fining	Mech irlandzki	6 g	Boil	20 min

## Notes

- Woda z Biedry 1  
*May 1, 2019, 8:35 PM*