

Waldemar PA Lager

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **30**
- SRM **4.2**
- Style **Premium American Lager**

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 **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **79 C**, Time **10 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **79C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	4 kg (80%)	82 %	4
Grain	Monachijski	1 kg (20%)	80 %	15

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	30 g	60 min	7 %
Aroma (end of boil)	Marynka	30 g	10 min	8.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-189	Lager	Dry	11.5 g	Fermentis