

# Waldemar PA Lager

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- 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  |