

# lager

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **20**
- SRM **3.5**
- Style **Vienna Lager**

## Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **17 %/h**
- Boil size **43.1 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.5 liter(s)**
- Total mash volume **30 liter(s)**

## Steps

- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **22.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **28.1 liter(s)** of **76C** water or to achieve **43.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	7.5 kg (100%)	81 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	saaz	50 g	60 min	3.76 %
Boil	Zula	20 g	20 min	8.3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
fm 31	Ale	Dry	30 g	fermentum