

# lager

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- Gravity **12.4 BLG**
- ABV ---
- IBU **27**
- SRM **4.1**
- Style **Oktoberfest/Märzen**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **2 %**
- Size with trub loss **20.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **6 %/h**
- Boil size **23.8 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.3 liter(s)**
- Total mash volume **16.4 liter(s)**

## Steps

- Temp **50 C**, Time **20 min**
- Temp **64 C**, Time **30 min**
- Temp **73 C**, Time **40 min**

## Mash step by step

- Heat up **12.3 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **20 min** at **50C**
- Keep mash **30 min** at **64C**
- Keep mash **40 min** at **73C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Rahr - Premium Pilsner Malt	3.6 kg (87.8%)	80 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (12.2%)	79 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	50 g	90 min	4 %
Aroma (end of boil)	Tettnang	30 g	0 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	10 g	Safale