

# las vegas

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **46**
- SRM **11**
- Style **California Common Beer**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.6 liter(s)**

## Steps

- Temp **62 C**, Time **40 min**
- Temp **71 C**, Time **35 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **10.2 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **35 min** at **71C**
- Keep mash **10 min** at **78C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	1.25 kg (36.8%)	81 %	6
Grain	Briess - Pilsen Malt	1 kg (29.4%)	80.5 %	2
Grain	crystal wheat	0.25 kg (7.4%)	70 %	55
Grain	Monachijski	0.25 kg (7.4%)	80 %	16
Grain	roasted rye	0.25 kg (7.4%)	67 %	190
Grain	Płatki owsiane	0.4 kg (11.8%)	60 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	10 g	60 min	9.5 %
Boil	Amarillo	10 g	30 min	8.9 %
Boil	Centennial	10 g	15 min	9.5 %
Boil	Amarillo	10 g	2 min	8.9 %
Whirlpool	Amarillo	10 g	15 min	8.9 %
Whirlpool	Centennial	10 g	15 min	9.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M54 Californian Lager	Lager	Dry	10 g	Mangrove Jack's

### Extras

Type	Name	Amount	Use for	Time
Fining	tabletki	2.5 g	Boil	10 min