

# las vegas

- Gravity **13.6 BLG**
- ABV ---
- 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 | tabletká | 2.5 g  | Boil    | 10 min |