

## P california lager

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **33**
- SRM **5**
- Style **Bohemian Pilsener**

### Batch size

- Expected quantity of finished beer **43 liter(s)**
- Trub loss **5 %**
- Size with trub loss **45.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **54.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **34.2 liter(s)**
- Total mash volume **45.6 liter(s)**

### Steps

- Temp **63 C**, Time **20 min**
- Temp **68 C**, Time **20 min**
- Temp **75 C**, Time **20 min**

### Mash step by step

- Heat up **34.2 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **20 min** at **68C**
- Keep mash **20 min** at **75C**
- Sparge using **31.7 liter(s)** of **76C** water or to achieve **54.5 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount        | Yield | EBC |
|-------|-----------------------------|---------------|-------|-----|
| Grain | Strzegom Pilzneński         | 10 kg (87.7%) | 80 %  | 4   |
| Grain | Strzegom Monachijski typ II | 1 kg (8.8%)   | 79 %  | 22  |
| Grain | Strzegom Karmel 30          | 0.4 kg (3.5%) | 75 %  | 30  |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Bravo             | 40 g   | 60 min | 13.7 %     |
| Boil    | Lublin (Lubelski) | 40 g   | 10 min | 4 %        |
| Boil    | Bravo             | 10 g   | 10 min | 13.7 %     |

### Yeasts

| Name                                       | Type  | Form | Amount | Laboratory      |
|--|-------|------|--------|-----------------|
| Mangrove Jack's M54 California Lager Yeast | Lager | Dry  | 20 g   | Mangrove Jack's |