

# APA Lotus, Michigan Copper

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **34**
- SRM **3.6**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **27.8 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**

## Mash step by step

- Heat up **22 liter(s)** of strike water to **74.3C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **30 liter(s)** of wort

## Fermentables

| Type  | Name       | Amount         | Yield | EBC |
|-------|------------|----------------|-------|-----|
| Grain | Pilzneński | 5 kg (86.2%)   | 81 %  | 4   |
| Grain | Pszeniczny | 0.8 kg (13.8%) | 85 %  | 4   |

## Hops

| Use for             | Name            | Amount | Time     | Alpha acid |
|---------------------|-----------------|--------|----------|------------|
| Boil                | Lotus           | 10 g   | 60 min   | 15.2 %     |
| Aroma (end of boil) | Lotus           | 25 g   | 10 min   | 15.2 %     |
| Aroma (end of boil) | Michigan Copper | 25 g   | 9 min    | 9 %        |
| Whirlpool           | Lotus           | 15 g   | 0 min    | 15.2 %     |
| Whirlpool           | Michigan Copper | 15 g   | 0 min    | 9 %        |
| Dry Hop             | Lotus           | 50 g   | 3 day(s) | 15.2 %     |
| Dry Hop             | Michigan Copper | 10 g   | 3 day(s) | 9 %        |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11.5 g | Fermentis  |