

## APA v9 #98

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- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **31**
- SRM **4.6**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.5 liter(s)**
- Boil time **75 min**
- Evaporation rate **15 %/h**
- Boil size **27.5 liter(s)**

### Mash information

- Mash efficiency **81.2 %**
- Liquor-to-grist ratio **3.85 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.2 liter(s)**

### Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **75 C**, Time **7 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

### Fermentables

| Type  | Name                     | Amount         | Yield  | EBC |
|-------|--------------------------|----------------|--------|-----|
| Grain | Mep©Ale                  | 4.3 kg (82.7%) | 82.2 % | 4.8 |
| Grain | Bestmalz -<br>pszeniczny | 0.4 kg (7.7%)  | 83 %   | 5   |
| Grain | Viking - rye malt        | 0.3 kg (5.8%)  | 81 %   | 8   |
| Grain | Viking - karmelowy<br>30 | 0.2 kg (3.8%)  | 74 %   | 30  |

### Hops

| Use for             | Name              | Amount | Time     | Alpha acid |
|---------------------|-------------------|--------|----------|------------|
| Boil                | Chinook US        | 12 g   | 60 min   | 12.8 %     |
| Aroma (end of boil) | Chinook US        | 20 g   | 10 min   | 12.8 %     |
| Aroma (end of boil) | Cascade US        | 30 g   | 5 min    | 7.1 %      |
| Aroma (end of boil) | Cascade US        | 45 g   | 1 min    | 7.1 %      |
| Dry Hop             | Chinook US        | 20 g   | 3 day(s) | 12.8 %     |
| Dry Hop             | Cascade US        | 50 g   | 3 day(s) | 7.1 %      |
| Dry Hop             | Mandarina Bavaria | 10 g   | 3 day(s) | 9.6 %      |
| Dry Hop             | Sorachi Ace       | 19 g   | 3 day(s) | 12.5 %     |

## Yeasts

| Name                        | Type | Form  | Amount | Laboratory       |
|-----------------------------|------|-------|--------|------------------|
| FM54 Gorączka kalifornijska | Ale  | Slant | 155 ml | Fermentum Mobile |

## Extras

| Type        | Name                   | Amount | Use for | Time  |
|-------------|------------------------|--------|---------|-------|
| Water Agent | gips                   | 2 g    | Mash    | ---   |
| Water Agent | kwask mlekowy 80% [ml] | 3.83 g | Mash    | ---   |
| Water Agent | chlorek wapnia [ml]    | 5.14 g | Mash    | ---   |
| Water Agent | epsom                  | 1.5 g  | Mash    | ---   |
| Water Agent | mech irlandzki         | 3 g    | Boil    | 5 min |