

## 48 APA

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **25**
- SRM **4.7**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **30.4 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

### Fermentables

| Type  | Name                      | Amount     | Yield  | EBC |
|-------|---------------------------|------------|--------|-----|
| Grain | BESTMALZ - Bestt Pale Ale | 3 kg (60%) | 80.5 % | 6   |
| Grain | Monachijski               | 1 kg (20%) | 80 %   | 16  |
| Grain | Pszeniczny                | 1 kg (20%) | 85 %   | 4   |

### Hops

| Use for   | Name    | Amount | Time     | Alpha acid |
|-----------|---------|--------|----------|------------|
| Boil      | Simcoe  | 20 g   | 60 min   | 13.2 %     |
| Whirlpool | Mosaic  | 20 g   | 0 min    | 10 %       |
| Whirlpool | Equinox | 20 g   | 0 min    | 13.1 %     |
| Whirlpool | Simcoe  | 20 g   | 0 min    | 13.2 %     |
| Dry Hop   | Mosaic  | 80 g   | 3 day(s) | 10 %       |
| Dry Hop   | Equinox | 80 g   | 3 day(s) | 13.1 %     |

### Yeasts

| Name                        | Type | Form   | Amount | Laboratory       |
|-----------------------------|------|--------|--------|------------------|
| FM54 Gorączka kalifornijska | Ale  | Liquid | 30 ml  | Fermentum Mobile |

## Extras

| Type   | Name               | Amount | Use for   | Time     |
|--------|--------------------|--------|-----------|----------|
| Herb   | Mięta              | 2 g    | Boil      | 20 min   |
| Flavor | Zest z limonki     | 2 g    | Boil      | 20 min   |
| Flavor | Zesta z grejpfruta | 3 g    | Boil      | 20 min   |
| Herb   | Mięta              | 2 g    | Secondary | 4 day(s) |
| Flavor | Zest z limonki     | 5 g    | Secondary | 4 day(s) |
| Flavor | Zesta z grejpfruta | 3 g    | Secondary | 4 day(s) |