

Mandaryna Pale Ale TB

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **41**
- SRM **4.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **6 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **33 liter(s)**

Mash information

- Mash efficiency **82 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **63 C**, Time **70 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **70 min** at **63C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **22.4 liter(s)** of **76C** water or to achieve **33 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 3 kg (56.6%) | 80 % | 4 |
| Grain | Viking Pale Ale malt | 1.9 kg (35.8%) | 80 % | 5 |
| Grain | Strzegom Karmel 30 | 0.4 kg (7.5%) | 75 % | 30 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnum | 13 g | 60 min | 10 % |
| Boil | Mandarina Bavaria | 25 g | 15 min | 8.1 % |
| Boil | Mandarina Bavaria | 50 g | 10 min | 8.1 % |
| Boil | Mandarina Bavaria | 50 g | 5 min | 8.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------------|------|-------|---------|------------------|
| FM54 Gorączka kalifornijska | Ale | Slant | 1000 ml | Fermentum Mobile |