

# Mandaryna Pale Ale TB

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- 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 |