

## #7 Mandarynkowa PA

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **43**
- SRM **3.8**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **8 liter(s)**
- Total mash volume **10.3 liter(s)**

### Steps

- Temp **69 C**, Time **60 min**

### Mash step by step

- Heat up **8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 1.9 kg (82.6%) | 80 %  | 5   |
| Grain | Płatki owsiane       | 0.4 kg (17.4%) | 85 %  | 3   |

### Hops

| Use for             | Name              | Amount | Time     | Alpha acid |
|---------------------|-------------------|--------|----------|------------|
| Boil                | lunga             | 10 g   | 60 min   | 11 %       |
| Boil                | Mandarina Bavaria | 10 g   | 20 min   | 7.6 %      |
| Boil                | Mandarina Bavaria | 20 g   | 5 min    | 7.6 %      |
| Aroma (end of boil) | Mandarina Bavaria | 20 g   | 0 min    | 7.6 %      |
| Dry Hop             | Mandarina Bavaria | 50 g   | 4 day(s) | 7.6 %      |

### Yeasts

| Name  | Type | Form  | Amount | Laboratory |
|-------|------|-------|--------|------------|
| US-05 | Ale  | Slant | 100 ml | ---        |

### Extras

| Type  | Name                          | Amount | Use for   | Time     |
|-------|-------------------------------|--------|-----------|----------|
| Spice | Zmacerowana skórka mandarynki | 50 g   | Secondary | 4 day(s) |
| Spice | Zmacerowana skórka cytryny    | 50 g   | Secondary | 4 day(s) |