

## #12 Mandarynkowa PA v.2

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **44**
- SRM **3.8**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

### Steps

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

### Mash step by step

- Heat up **12.9 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **69C**
- Sparge using **14.2 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.8 kg (65.1%)	80 %	5
Grain	Płatki owsiane	0.5 kg (11.6%)	85 %	3
Grain	Płatki pszeniczne	0.5 kg (11.6%)	85 %	3
Grain	Słód pszeniczny Bestmalz	0.5 kg (11.6%)	82 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mandarina Bavaria	20 g	60 min	11 %
Boil	Mandarina Bavaria	20 g	20 min	7.6 %
Boil	Mandarina Bavaria	20 g	5 min	7.6 %
Whirlpool	Mandarina Bavaria	40 g	0 min	7.6 %
Dry Hop	Mandarina Bavaria	100 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
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Spice	Zmacerowana skórka mandarynki	200 g	Secondary	4 day(s)
Spice	Zmacerowana skórka cytryny	50 g	Secondary	4 day(s)