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

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.