Mandaryna Pale Ale

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **54**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

Steps

- Temp **68 C**, Time **70 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **12.9 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.5 kg *(58.1%)*	81 %	4
Grain	Viking Pale Ale malt	1.5 kg *(34.9%)*	80 %	5
Grain	Caramel/Crystal Malt - 30L	0.3 kg *(7%)*	75 %	59

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	60 min	13.5 %
Boil	Mandarina Bavaria	20 g	15 min	10 %
Boil	Mandarina Bavaria	40 g	10 min	10 %
Boil	Mandarina Bavaria	40 g	5 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11 g	fermentis

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