

# mandarina pale ale

- Gravity **14.2 BLG**
- ABV ---
- IBU **39**
- SRM **15.5**
- Style **Belgian Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.1 liter(s)**
- Total mash volume **20.7 liter(s)**

## Steps

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

## Mash step by step

- Heat up **16.1 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **13.8 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 (54.3%)	81 %	6
Grain	Caramel/Crystal Malt - 30L	0.3 kg (6.5%)	75 %	59
Grain	Pale Ale	1.5 kg (32.6%)	79 %	6
Grain	Strzegom Karmel 300	0.3 kg (6.5%)	70 %	299

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	60 min	11.2 %
Boil	Mandarina Bavaria	20 g	15 min	7.6 %
Boil	Mandarina Bavaria	40 g	10 min	7.6 %
Boil	Mandarina Bavaria	40 g	5 min	7.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
cobra	Ale	Dry	11 g	Fermentis