

# ŻURAW - MANDARINE INDIA PALE ALE

- Gravity **14 BLG**
- ABV ---
- IBU **89**
- SRM **5.7**
- Style **English IPA**

## Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **73 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **30 min** at **73C**
- Keep mash **10 min** at **78C**
- Sparge using **13.4 liter(s)** of **76C** water or to achieve **22.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3 kg (66.7%)	79 %	6
Grain	Żytni	0.5 kg (11.1%)	85 %	8
Grain	Pszeniczny	1 kg (22.2%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Apollo	30 g	60 min	17 %
Boil	Mandarina Bavaria	50 g	10 min	10 %
Dry Hop	Mandarina Bavaria	50 g	10 day(s)	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Spice	Zest z madarynek	150 g	Secondary	7 day(s)