

# MAKRO IPA NA UROCZYSKO

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **6**
- SRM **3.7**
- Style **English IPA**

## Batch size

- Expected quantity of finished beer **35 liter(s)**
- Trub loss **5 %**
- Size with trub loss **39.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **48.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **27 liter(s)**
- Total mash volume **36 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **27 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **5 min** at **76C**
- Sparge using **30.8 liter(s)** of **76C** water or to achieve **48.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	5 kg (55.6%)	82 %	4
Grain	Żytni	0.5 kg (5.6%)	85 %	8
Grain	Pszeniczny	2 kg (22.2%)	85 %	4
Grain	Płatki owsiane	1 kg (11.1%)	60 %	3
Grain	Płatki pszeniczne	0.5 kg (5.6%)	60 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	ZULA	25 g	5 min	10 %
Aroma (end of boil)	KSIAZECY	35 g	5 min	7 %
Dry Hop	KSIAZECY	150 g	3 day(s)	7 %
Dry Hop	ZULA	25 g	3 day(s)	10 %
Dry Hop	OKTAWIA	50 g	3 day(s)	7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	10 g	Fermentis