

# Milkshake IPA z tonką

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **30**
- SRM **2.9**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **7 %**
- Size with trub loss **22.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.1 liter(s)**
- Total mash volume **14.8 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **11.1 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilznieński	3 kg (69%)	81 %	4
Grain	Słód owsiany Fawcett	0.5 kg (11.5%)	61 %	5
Grain	Płatki pszeniczne	0.2 kg (4.6%)	60 %	3
Sugar	Milk Sugar (Lactose)	0.65 kg (14.9%)	76.1 %	0

## Hops

Use for	Name	Amount	Time	Alpha acid
Whirlpool	Zula	50 g	30 min	9.7 %
Whirlpool	Amora Preta	30 g	30 min	9 %
Dry Hop	Zula	50 g	4 day(s)	9.7 %
Dry Hop	Amora Preta	70 g	4 day(s)	9 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale K-97	Ale	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
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Flavor	Tonka	7 g	Secondary	3 day(s)
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## Notes

- Woda Oaza 30 litrów  
Kwas mlekowy - 0.5 ml do zacierania, 1.5 ml na 10 litrów do wystadzania  
Dodatek gipsu piwowarskiego 1g na 10 litrów do zacierania i 2 g do wystadzania  
Dodatek laktozy (0,65 kg) na ostatnie 20 minut gotowania  
Fermentacja w 18'C  
Dozowanie maceratu z tonki w whisky tuż przed rozlewem.  
*Jan 18, 2020, 5:36 PM*