

Trzy na Trzy

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **47**
- SRM **4.5**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **24.5 liter(s)**

Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **72.8C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **21.4 liter(s)** of **76C** water or to achieve **31.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (57.1%)	80 %	5
Grain	Pszeniczny	2 kg (28.6%)	85 %	4
Grain	Żytni	1 kg (14.3%)	85 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	30 g	50 min	15.5 %
Boil	Zula	30 g	10 min	7.5 %
Boil	Izabella	30 g	10 min	4.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	300 ml	safale