

# Tomahawk Wojownika

---

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **92**
- SRM **22.7**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **10.3 liter(s)**
- Total mash volume **14.3 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **10.3 liter(s)** of strike water to **76.4C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **20.6 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	3.2 kg (78%)	85 %	7
Grain	Płatki owsiane	0.5 kg (12.2%)	85 %	3
Grain	Jęczmień palony	0.3 kg (7.3%)	55 %	985
Grain	Carafa II	0.1 kg (2.4%)	70 %	812

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	15 g	60 min	15.5 %
Boil	Warrior	15 g	60 min	14.1 %
Boil	Columbus/Tomahawk/Zeus	15 g	30 min	15.5 %
Boil	Warrior	15 g	30 min	15.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	15.5 g	Safale