

# Ech

---

- Gravity **12.4 BLG**
- ABV ---
- IBU **32**
- SRM **4.5**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **10 %**
- Size with trub loss **15.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **19.3 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.1 liter(s)**

## Steps

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

## Mash step by step

- Heat up **10.2 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **12 liter(s)** of **76C** water or to achieve **19.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	2.9 kg (100%)	80 %	7

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	5 g	60 min	12.8 %
Boil	Chinook	20 g	10 min	12.8 %
Boil	Amarillo	30 g	1 min	8.9 %
Boil	Citra	50 g	1 min	12 %

## Yeasts

Name	Type	Form	Amount	Laboratory
US West Coast	Ale	Dry	10 g	Gozdawa