

# Ech

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- 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    |