

## #47 Cascade Ale

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **33**
- SRM **3.1**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **0 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **84.5 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop - pilznieński	4.5 kg (100%)	80 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	14 g	60 min	15.5 %
Dry Hop	Cascade	50 g	5 day(s)	6 %
Boil	Cascade	50 g	10 min	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM55 - Zielone wzgórze	Ale	Culture	200 g	---