

# cascade pale ale

---

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **56**
- SRM **6.1**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **69 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **16.5 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **5 min** at **78C**
- Sparge using **15.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	5 kg (90.9%)	82 %	4
Grain	Caramel/Crystal Malt - 30L	0.5 kg (9.1%)	75 %	59

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	15 g	90 min	6 %
Boil	Cascade	20 g	60 min	6 %
Boil	Cascade	60 g	30 min	6 %
Whirlpool	Cascade	55 g	0 min	6 %
First Wort	Cascade	50 g	2 min	6 %