

Cascade Pale Ale

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **45**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **0 %**
- Size with trub loss **15 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **19.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **66 C**, Time **70 min**

Mash step by step

- Heat up **16 liter(s)** of strike water to **71.8C**
- Add grains
- Keep mash **70 min** at **66C**
- Sparge using **7.8 liter(s)** of **76C** water or to achieve **19.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (87.5%)	80 %	5
Grain	Viking Vienna Malt	0.5 kg (12.5%)	79 %	7

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	20 g	60 min	6.4 %
Boil	Cascade	20 g	20 min	6.4 %
Boil	Cascade	40 g	10 min	6.4 %
Boil	Cascade	20 g	1 min	6 %