

Cascade pale ale

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **81**
- SRM **7.2**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.1 liter(s)**
- Total mash volume **20.7 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **16.1 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **14.2 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.3 kg (93.5%)	80 %	5
Grain	Strzegom Karmel 150	0.3 kg (6.5%)	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade PL	50 g	60 min	8 %
Boil	Cascade PL	50 g	30 min	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	11 g	Danstar