

apapapa

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **48**
- SRM **5.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **68 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (63.6%)	80 %	5
Grain	Viking Munich Malt	1 kg (18.2%)	78 %	18
Grain	Weyermann - Bohemian Pilsner Malt	1 kg (18.2%)	81 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	30 g	60 min	13 %
Aroma (end of boil)	citra	15 g	5 min	12 %
Aroma (end of boil)	Citra	15 g	1 min	12 %
Aroma (end of boil)	Cascade	15 g	1 min	6 %
Aroma (end of boil)	Cascade	15 g	5 min	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis