

APA

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **49**
- SRM **5.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.7 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **58.3 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **38.5 liter(s)**
- Total mash volume **49.5 liter(s)**

Steps

- Temp **67 C**, Time **70 min**
- Temp **72 C**, Time **5 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **38.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **5 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **30.8 liter(s)** of **76C** water or to achieve **58.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	10 kg (90.9%)	80 %	5
Grain	Fawcett - Crystal	0.2 kg (1.8%)	70 %	160
Grain	Weyermann - Carafoam	0.2 kg (1.8%)	81 %	5
Grain	Briess - Munich Malt 10L	0.6 kg (5.5%)	77 %	20

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	70 g	60 min	11.4 %
Boil	Simcoe	10 g	30 min	11.4 %
Boil	Amarillo	20 g	15 min	9.5 %
Boil	Cascade	60 g	0 min	6 %
Boil	Amarillo	30 g	0 min	9.5 %
Dry Hop	Amarillo	30 g	7 day(s)	9.5 %
Dry Hop	Cascade	30 g	7 day(s)	6 %
Dry Hop	Cascade	50 g	3 day(s)	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's
Safale US-05	Ale	Dry	11.5 g	Fermentis