

APA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **41**
- SRM **7.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **0 %**
- Size with trub loss **20 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.2 liter(s)**

Mash information

- Mash efficiency **63 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **77C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **24.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Colorado Pale Base Malt	5 kg (90.9%)	81 %	5
Grain	Caraamber	0.5 kg (9.1%)	75 %	79

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	15 g	20 min	9.5 %
Aroma (end of boil)	Amarillo	20 g	0 min	9.5 %
Boil	Cascade	15 g	20 min	6 %
Aroma (end of boil)	Cascade	20 g	0 min	6 %
Boil	Centennial	15 g	20 min	10.5 %
Aroma (end of boil)	Centennial	20 g	0 min	10.5 %
Boil	Chinook	15 g	20 min	13 %
Aroma (end of boil)	Chinook	20 g	0 min	13 %
Dry Hop	Amarillo	15 g	3 day(s)	9.5 %
Dry Hop	Cascade	15 g	3 day(s)	6 %
Dry Hop	Centennial	15 g	3 day(s)	10.5 %
Dry Hop	Chinook	15 g	3 day(s)	13 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-05	Ale	Dry	11.5 g	Safale