

APA

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **37**
- SRM **4.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **24.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.25 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **17 liter(s)**

Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **80 C**, Time **5 min**

Mash step by step

- Heat up **13 liter(s)** of strike water to **68.5C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **80C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **24.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Carahell	0.2 kg (5%)	77 %	26
Grain	Weyermann - Pale Ale Malt	3.8 kg (95%)	85 %	7

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Golding	20 g	60 min	5 %
Boil	Willamette	20 g	15 min	5 %
Boil	Azacca	20 g	15 min	10.8 %
Boil	Willamette	10 g	5 min	5 %
Boil	Azacca	15 g	5 min	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Fermentis