

APA

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **45**
- SRM **3.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Malting - Pilsen	5 kg (96.2%)	80.5 %	4
Grain	Cara Blonde - Castle Malting	0.2 kg (3.8%)	78 %	20

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	16.5 %
Aroma (end of boil)	El Dorado	15 g	10 min	15 %
Boil	Motueka	25 g	0 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Voss Kveik	Ale	Dry	100 g	Lallemand