

# Apache APA

- Gravity **12.4 BLG**
- ABV ---
- IBU **19**
- SRM **12.1**
- Style **American Amber 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 **8 %/h**
- Boil size **24.4 liter(s)**

## Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.9 liter(s)**
- Total mash volume **17.2 liter(s)**

## Steps

- Temp **68 C**, Time **50 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **12.9 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **50 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **24.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	pils	4 kg (92.8%)	80.5 %	4
Grain	Karmelowy Czerwony	0.2 kg (4.6%)	75 %	59
Grain	zakwaszający	0.06 kg (1.4%)	80 %	---
Grain	Strzegom Czekoladowy ciemny	0.05 kg (1.2%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	perle	8 g	60 min	7.5 %
Boil	perle	8 g	30 min	7.5 %
Boil	lunga	10 g	15 min	11 %
Aroma (end of boil)	lunga	10 g	0 min	11 %
Whirlpool	lunga	10 g	0 min	11 %

## Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Slant	180 ml	---