

## Apa vol.2.1.1

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- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **43**
- SRM **3.8**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.1 liter(s) / kg**
- Mash size **32.6 liter(s)**
- Total mash volume **43.1 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **32.6 liter(s)** of strike water to **74.6C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **28.5 liter(s)** of **76C** water or to achieve **50.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	10.5 kg (100%)	81 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	50 g	30 min	13 %
Boil	Centennial	50 g	15 min	6 %
Aroma (end of boil)	Cascade	50 g	15 min	3.2 %
Aroma (end of boil)	Cascade	50 g	5 min	3.2 %
Aroma (end of boil)	Centennial	50 g	5 min	5.4 %
Aroma (end of boil)	Centennial	100 g	0 min	5.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Safale
Safale S-04	Ale	Dry	11.5 g	Safale