

## (Sour) APA

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **36**
- SRM **4.1**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **64 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **78C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.5 kg (70%)	81 %	4
Grain	BESTMALZ - Best Heidelberg Wheat Malt	1 kg (20%)	82 %	3
Grain	Castlemalting - Cara Clair	0.25 kg (5%)	78 %	4
Grain	Abbey Castle	0.2 kg (4%)	80 %	45
Grain	Acid Malt	0.05 kg (1%)	58.7 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	10 g	60 min	11 %
Boil	Mosaic	25 g	20 min	10 %
Boil	Citra	10 g	20 min	14 %
Boil	Chinook	15 g	0 min	13 %
Boil	Citra	15 g	0 min	12 %
Whirlpool	Chinook	30 g	20 min	13 %
Dry Hop	Citra	25 g	3 day(s)	12 %
Dry Hop	Chinook	25 g	3 day(s)	13 %

## Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips	5 g	Mash	60 min
Water Agent	Lactic Acid	5 g	Mash	60 min
Fining	Whirlfloc	2.5 g	Boil	10 min
Flavor	Lactic Acid	2.4 g	Bottling	---

## Notes

- Połowa butelek zostanie zakwaszona po 2.4 ml/0.5l kwasu mlekowego.  
*Jul 7, 2017, 1:44 PM*