

## APA v11 #102

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **37**
- SRM **4.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.5 liter(s)**
- Boil time **85 min**
- Evaporation rate **14 %/h**
- Boil size **27.2 liter(s)**

### Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3.81 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.3 liter(s)**

### Steps

- Temp **67 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **7 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **73.2C**
- Add grains
- Keep mash **45 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **76C**
- Sparge using **12.5 liter(s)** of **76C** water or to achieve **27.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	4.1 kg (78.1%)	82.2 %	4.8
Grain	płatki owsiane	0.5 kg (9.5%)	83 %	3
Grain	Bestmalz - pszeniczny	0.4 kg (7.6%)	83 %	5
Grain	Viking - karmelowy 30	0.25 kg (4.8%)	75 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	5.74 g	60 min	14.7 %
Boil	Columbus	20 g	15 min	12.4 %
Aroma (end of boil)	Simcoe	26 g	5 min	13.2 %
Aroma (end of boil)	Ekuanot	20 g	5 min	13.1 %
Aroma (end of boil)	Sabro	35 g	1 min	14.8 %
Dry Hop	Sabro	30 g	3 day(s)	14.8 %
Dry Hop	Citra	30 g	3 day(s)	13.5 %
Dry Hop	Ekuanot	30 g	3 day(s)	13.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	160 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2 g	Mash	---
Water Agent	kwask mlekowy 80% [ml]	4 g	Mash	---
Water Agent	chlerek wapnia [ml]	5.14 g	Mash	---
Water Agent	epsom	1.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	5 min