

## APA v3 #75

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **31**
- SRM **4.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **82.1 %**
- Liquor-to-grist ratio **4.76 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **24.2 liter(s)**

### Steps

- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **75 C**, Time **7 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **70.8C**
- Add grains
- Keep mash **30 min** at **66C**
- Keep mash **40 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **10.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking - pale ale	2.8 kg (66.7%)	79 %	6
Grain	Viking - pilzniejszy	0.6 kg (14.3%)	80 %	4
Grain	Viking - monachijski I	0.4 kg (9.5%)	78 %	16
Grain	Płatki owsiane	0.4 kg (9.5%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Chinook PL	12 g	60 min	8.6 %
Aroma (end of boil)	Columbus	25 g	10 min	12.4 %
Aroma (end of boil)	Sorachi Ace	25 g	3 min	12.5 %
Dry Hop	Columbus	25 g	3 day(s)	12.4 %
Dry Hop	Cascade US	20 g	3 day(s)	6.9 %
Dry Hop	Sorachi Ace	25 g	3 day(s)	12.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Liquid	110 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2 g	Mash	---
Water Agent	kwask mlekowy 80% [ml]	4.53 g	Mash	---
Water Agent	chlerek wapnia [ml]	3.44 g	Mash	---
Water Agent	epsom	1.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	5 min