

## APA v4 #84

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **34**
- SRM **4.6**
- 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 **12 %/h**
- Boil size **25.7 liter(s)**

### Mash information

- Mash efficiency **80.9 %**
- Liquor-to-grist ratio **4.53 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **24.5 liter(s)**

### Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **75 C**, Time **7 min**

### Mash step by step

- Heat up **20.1 liter(s)** of strike water to **71.1C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	3 kg (67.7%)	82.1 %	6
Grain	Viking - pilzneński	0.6 kg (13.5%)	80 %	4
Grain	Viking - rye malt	0.018 kg (0.4%)	81 %	8
Grain	Bruntal - pszeniczny	0.613 kg (13.8%)	83 %	5
Grain	Weyermann - Carabelge	0.2 kg (4.5%)	74 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	12 g	60 min	14.7 %
Aroma (end of boil)	Ekuanot	15 g	10 min	13.1 %
Aroma (end of boil)	Mosaic	20 g	5 min	10.4 %
Aroma (end of boil)	Cascade US	30 g	1 min	6.9 %
Dry Hop	Ekuanot	20 g	3 day(s)	13.1 %
Dry Hop	Cascade US	25 g	3 day(s)	6.9 %
Dry Hop	Mosaic	15 g	3 day(s)	10.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	145 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2 g	Mash	---
Water Agent	kwask mlekowy 80% [ml]	4.24 g	Mash	---
Water Agent	chlorek wapnia [ml]	5.14 g	Mash	---
Water Agent	epsom	1.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	5 min