

## apa 3/2019

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **49**
- SRM **6.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **30.7 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

### Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **16.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **19.5 liter(s)** of **76C** water or to achieve **30.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (71.4%)	80 %	5
Grain	Strzegom Pilzneński	1 kg (17.9%)	80 %	4
Grain	Briess - 2 Row Carapils Malt	0.5 kg (8.9%)	75 %	3
Grain	red crystal	0.1 kg (1.8%)	71.3 %	400

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook goryczkowy	30 g	60 min	10 %
Boil	summit szyszka uniwersalny	25 g	15 min	15.6 %
Boil	Cascade aromat	20 g	5 min	7.1 %
Boil	Mosaic aromat	10 g	5 min	12 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Slant	100 ml	---

## Extras

Type	Name	Amount	Use for	Time
Fining	wirfloct	2.5 g	Boil	5 min