

## APA v21 #129

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **35**
- SRM **4.8**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **17.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.7 liter(s)**
- Boil time **80 min**
- Evaporation rate **23.4 %/h**
- Boil size **24.8 liter(s)**

### Mash information

- Mash efficiency **79.5 %**
- Liquor-to-grist ratio **3.85 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18.9 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **13.7 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński - viking	1 kg (25.6%)	80 %	3.6
Grain	pale ale - viking	2 kg (51.3%)	80 %	5.5
Grain	płatki owsiane	0.4 kg (10.3%)	83 %	3
Grain	pszeniczny - bestmalz	0.3 kg (7.7%)	82 %	5
Grain	cookie - viking	0.2 kg (5.1%)	72 %	50

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	14 g	60 min	11.5 %
Aroma (end of boil)	Vermelho	50 g	5 min	8.1 %
Aroma (end of boil)	EXP 2/20	30 g	1 min	7.5 %
Aroma (end of boil)	Zula	20 g	1 min	9.7 %
Dry Hop	Vermelho	30 g	2 day(s)	8.1 %
Dry Hop	EXP 2/20	31 g	2 day(s)	7.5 %
Dry Hop	Zula	20 g	2 day(s)	9.7 %

### Yeasts

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Liquid	170 ml	Fermentum Mobile
5 tygodniowa gęstwa				

### Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2.5 g	Mash	---
Water Agent	kwas mlekowy 80% [ml]	4.5 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Water Agent	epsom	0.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	10 min
Water Agent	kwask askorbinowy	3 g	Bottling	---