

## Forest APA

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **32**
- SRM **3.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **3 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **3 %/h**
- Boil size **28.5 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21.4 liter(s)**
- Total mash volume **26.8 liter(s)**

### Steps

- Temp **65 C**, Time **20 min**
- Temp **68 C**, Time **40 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **21.4 liter(s)** of strike water to **70.6C**
- Add grains
- Keep mash **20 min** at **65C**
- Keep mash **40 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **12.5 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.5 kg (46.7%)	80 %	5
Grain	Strzegom Pilzniejszy	1.3 kg (24.3%)	80 %	4
Grain	Płatki owsiane	0.4 kg (7.5%)	85 %	3
Grain	Viking Malt - Pszeniczny	1 kg (18.7%)	83 %	5
Grain	Zakwaszający	0.15 kg (2.8%)	70 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	10 g	70 min	11 %
Boil	Cascade	50 g	10 min	6 %
Boil	Mosaic	30 g	0 min	12 %
Whirlpool	Centennial	40 g	20 min	10.5 %
Dry Hop	Simcoe	50 g	7 day(s)	13.2 %
Dry Hop	Citra	30 g	7 day(s)	12 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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US-05	Ale	Dry	23 g	Fermentis
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### Extras

Type	Name	Amount	Use for	Time
Spice	Pędy sosny	300 g	Boil	30 min
Spice	Owoc jałowca	15 g	Boil	30 min