

## Hop na APA

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- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **25**
- SRM **4.5**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **77 C**, Time **5 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **77C**
- Sparge using **14.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	2 kg (40%)	81 %	6
Grain	Weyermann - Pale Ale Malt	1 kg (20%)	85 %	7
Grain	Weyermann - Pale Wheat Malt	1 kg (20%)	85 %	5
Grain	Oats, Flaked	0.5 kg (10%)	80 %	2
Grain	Wheat, Flaked	0.5 kg (10%)	77 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	10 g	60 min	12 %
Aroma (end of boil)	Citra	20 g	10 min	12 %
Whirlpool	Citra	30 g	1 min	12 %
Whirlpool	Falconer's Flight	30 g	1 min	10.5 %
Dry Hop	Citra	60 g	5 day(s)	12 %
Dry Hop	Galaxy	30 g	5 day(s)	15 %
Dry Hop	Falconer's Flight	30 g	5 day(s)	10.5 %
Dry Hop	Citra	60 g	5 day(s)	12 %

Dry Hop	Falconer's Flight	30 g	5 day(s)	10.5 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
Safbrew S-33	Ale	Dry	11.5 g	Safbrew

### Extras

Type	Name	Amount	Use for	Time
Water Agent	chlorek wapnia	3 g	Mash	60 min