

## season apa

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **29**
- SRM **5.5**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

### Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **21.3 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.5 kg (86.5%)	80 %	5
Grain	Pszeniczny	0.5 kg (9.6%)	85 %	4
Grain	Strzegom Karmel 150	0.2 kg (3.8%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Galaxy	15 g	60 min	15 %
Boil	Galaxy	30 g	5 min	15 %
Aroma (end of boil)	Amarillo	30 g	0 min	9.5 %
Dry Hop	Amarillo	50 g	4 day(s)	9.5 %
Dry Hop	Citra	50 g	4 day(s)	12 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	---