

## Bro APA

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- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **72**
- SRM **10.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **18.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **18.5 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14.1 liter(s)** of strike water to **74.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **1 min** at **78C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **18.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (90.9%)	79 %	6
Grain	Płatki owsiane	0.2 kg (4.5%)	85 %	3
Grain	Strzegom Karmel 300	0.2 kg (4.5%)	70 %	299

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	30 g	60 min	9.5 %
Boil	Amarillo	30 g	15 min	9.5 %
Boil	Cascade	25 g	10 min	6 %
Boil	Styrian Golding	30 g	10 min	3.6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale