PINE APA

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **37**
- SRM **7**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.5 liter(s)**
- Total mash volume **20.7 liter(s)**

Steps

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

Mash step by step

- Heat up **15.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **17.5 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	4 kg *(77.4%)*	80 %	8
Grain	Strzegom Wiedeński	0.25 kg *(4.8%)*	79 %	10
Grain	Płatki owsiane	0.5 kg *(9.7%)*	85 %	3
Grain	Strzegom Karmel 150	0.22 kg *(4.3%)*	75 %	150
Grain	Briess - Carapils Malt	0.2 kg *(3.9%)*	74 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	16 g	20 min	15.1 %
Boil	Chinook	15 g	20 min	12.8 %
Whirlpool	Cascade	30 g	30 min	7.1 %
Whirlpool	Centennial	10 g	30 min	9.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	100 ml	Fermentis