

## LEM | Sosnowe APA

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- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **30**
- SRM **7.6**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **2.5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **19.4 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **0 min**

### Mash step by step

- Heat up **14.3 liter(s)** of strike water to **76.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **76C**
- Sparge using **19.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (70.2%)	80 %	5
Grain	Strzegom Monachijski typ I	0.8 kg (14%)	79 %	16
Grain	Karmelowy Czerwony	0.2 kg (3.5%)	75 %	59
Grain	Strzegom Karmel 300	0.1 kg (1.8%)	73 %	299
Liquid Extract	Ekstrakt słodowy jasny	0.6 kg (10.5%)	80 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	2 g	60 min	15.5 %
Boil	Chinook	10 g	60 min	13 %
Boil	Columbus/Tomahawk/Zeus	10 g	30 min	15.5 %
Boil	Amarillo	10 g	10 min	9.5 %
Aroma (end of boil)	Amarillo	15 g	0 min	9.5 %
Dry Hop	Amarillo	25 g	7 day(s)	9.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's

## Extras

Type	Name	Amount	Use for	Time
Flavor	Pędy sosny	150 g	Boil	30 min
Flavor	Pędy sosny	50 g	Boil	0 min