Manhattan APA

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **37**
- SRM **5.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **170 liter(s)**
- Trub loss **5 %**
- Size with trub loss **178.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **201.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **130.5 liter(s)**
- Total mash volume **174 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

Mash step by step

- Heat up **130.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Sparge using **114.7 liter(s)** of **76C** water or to achieve **201.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	30 kg *(69%)*	80 %	5
Grain	Strzegom Pszeniczny	8 kg *(18.4%)*	81 %	6
Grain	Strzegom Monachijski typ II	3 kg *(6.9%)*	79 %	22
Grain	Karmelowy Jasny 30EBC	2 kg *(4.6%)*	75 %	30
Grain	Acid Malt	0.5 kg *(1.1%)*	58.7 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	100 g	60 min	11.5 %
Boil	Columbus/Tomahawk/Zeus	50 g	30 min	12.5 %
Boil	Citra	50 g	10 min	13.5 %
Boil	Waimea	50 g	5 min	17 %
Whirlpool	Simcoe	100 g	30 min	13.2 %
Whirlpool	Amarillo	100 g	30 min	8.8 %
Dry Hop	Centennial	200 g	7 day(s)	9.4 %
Dry Hop	Waimea	350 g	7 day(s)	17 %
Dry Hop	Citra	150 g	7 day(s)	13.5 %

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Yeasts

Name	Type	Form	Amount	Laboratory
Fermentis US-05	Ale	Culture	200 g	Safale