

# 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 %     |

## Yeasts

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