

Manhattan APA old

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **54**
- 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 **205.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **133.5 liter(s)**
- Total mash volume **178 liter(s)**

Steps

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

Mash step by step

- Heat up **133.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Sparge using **116.3 liter(s)** of **76C** water or to achieve **205.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|--------|-----|
| Grain | Viking Pale Ale malt | 25 kg (56.2%) | 80 % | 5 |
| Grain | Strzegom Pszeniczny | 5 kg (11.2%) | 81 % | 6 |
| Grain | Strzegom Pilzneński | 5 kg (11.2%) | 80 % | 4 |
| Grain | Strzegom Monachijski typ II | 4 kg (9%) | 79 % | 22 |
| Grain | Karmelowy Jasny 30EBC | 2 kg (4.5%) | 75 % | 30 |
| Grain | Acid Malt | 0.5 kg (1.1%) | 58.7 % | 6 |
| Grain | Płatki owsiane | 3 kg (6.7%) | 60 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------|--------|----------|------------|
| Boil | Magnum | 100 g | 60 min | 11.5 % |
| Boil | Mosaic | 50 g | 30 min | 12 % |
| 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 | 200 g | 7 day(s) | 17 % |
| Whirlpool | Citra | 100 g | 30 min | 12 % |

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|-----------|--------|-------|----------|--------|
| Dry Hop | Citra | 100 g | 7 day(s) | 13.5 % |
| Whirlpool | Waimea | 200 g | 30 min | 17 % |

Yeasts

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

Notes

- Whirlpool: 10 minut 95°C, 10 minut 75°C, 10 minut 65°C
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