

# APA

- Gravity **13.3 BLG**
- ABV ---
- IBU **64**
- SRM **4.1**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **45 liter(s)**
- Trub loss **5 %**
- Size with trub loss **47.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **57.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.4 liter(s)**
- Total mash volume **43.2 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **32.4 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **0 min** at **78C**
- Sparge using **36.2 liter(s)** of **76C** water or to achieve **57.8 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount        | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Pilzneński           | 6 kg (55.6%)  | 81 %  | 4   |
| Grain | Viking Pale Ale malt | 3 kg (27.8%)  | 80 %  | 6   |
| Grain | Weyermann - Carapils | 0.5 kg (4.6%) | 78 %  | 4   |
| Grain | Żytni                | 0.3 kg (2.8%) | 85 %  | 8   |
| Grain | Płatki owsiane       | 1 kg (9.3%)   | 85 %  | 3   |

## Hops

| Use for | Name                   | Amount | Time   | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil    | Columbus/Tomahawk/Zeus | 30 g   | 50 min | 15.5 %     |
| Boil    | Amarillo               | 10 g   | 25 min | 9.5 %      |
| Boil    | Citra                  | 10 g   | 25 min | 12 %       |
| Boil    | Galaxy                 | 10 g   | 25 min | 15 %       |
| Boil    | Centennial             | 10 g   | 25 min | 10.5 %     |
| Boil    | Amarillo               | 30 g   | 10 min | 9.5 %      |
| Boil    | Galaxy                 | 30 g   | 10 min | 15 %       |
| Boil    | Citra                  | 30 g   | 10 min | 12 %       |
| Boil    | Centennial             | 20 g   | 10 min | 10.5 %     |

|           |            |      |          |        |
|-----------|------------|------|----------|--------|
| Whirlpool | Amarillo   | 20 g | 1 min    | 9.5 %  |
| Whirlpool | Galaxy     | 20 g | 1 min    | 15 %   |
| Whirlpool | Citra      | 20 g | 1 min    | 12 %   |
| Whirlpool | Centennial | 20 g | 1 min    | 10.5 % |
| Dry Hop   | Amarillo   | 30 g | 3 day(s) | 9.5 %  |
| Dry Hop   | Galaxy     | 30 g | 3 day(s) | 15 %   |
| Dry Hop   | Citra      | 30 g | 3 day(s) | 12 %   |
| Dry Hop   | Centennial | 50 g | 3 day(s) | 10.5 % |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | ---        |

### Extras

| Type        | Name | Amount | Use for | Time   |
|-------------|------|--------|---------|--------|
| Water Agent | gips | 4 g    | Boil    | 60 min |