

APA

- Gravity **13.2 BLG**
- ABV ---
- IBU **33**
- SRM **10.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.7 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.4 liter(s)**
- Total mash volume **23.6 liter(s)**

Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18.4 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 5 kg (95.2%) | 79 % | 6 |
| Grain | Cara Ruby Castle | 0.15 kg (2.9%) | 72 % | 49 |
| Grain | Caraaroma | 0.1 kg (1.9%) | 78 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|----------|--------|--------|------------|
| Boil | Citra | 8 g | 60 min | 13.5 % |
| Boil | Citra | 8 g | 10 min | 13.5 % |
| Boil | Amarillo | 8 g | 25 min | 8.9 % |
| Boil | Cascade | 8 g | 25 min | 7.7 % |
| Boil | Amarillo | 10 g | 10 min | 8.9 % |
| Boil | Cascade | 10 g | 10 min | 7.7 % |
| Boil | Cascade | 10 g | 2 min | 7.7 % |
| Boil | Citra | 10 g | 2 min | 13.5 % |
| Boil | Amarillo | 10 g | 2 min | 8.9 % |
| Whirlpool | Citra | 25 g | 10 min | 13.5 % |
| Whirlpool | Amarillo | 25 g | --- | 9.5 % |

| | | | | |
|-----------|---------|------|-----|-----|
| Whirlpool | Cascade | 25 g | --- | 6 % |
|-----------|---------|------|-----|-----|

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 11.5 g | Fermentis |