

## Co za gAPA

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- Gravity **14 BLG**
- ABV ---
- IBU **50**
- SRM **6.1**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **30 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.5 liter(s)**
- Total mash volume **20.6 liter(s)**

### Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **15.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **30 liter(s)** of wort

### Fermentables

| Type  | Name                | Amount         | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale   | 2.2 kg (42.7%) | 79 %  | 6   |
| Grain | Strzegom Pilzneński | 2.2 kg (42.7%) | 80 %  | 4   |
| Grain | Biscuit Malt        | 0.3 kg (5.8%)  | 79 %  | 45  |
| Grain | Orkiszowy           | 0.4 kg (7.8%)  | 85 %  | 4   |
| Grain | Karmelowy           | 0.05 kg (1%)   | 75 %  | 150 |

### Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 15 g   | 60 min   | 15.5 %     |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 10 g   | 30 min   | 15.5 %     |
| Aroma (end of boil) | Mosaic                 | 5 g    | 10 min   | 10 %       |
| Aroma (end of boil) | Centennial             | 5 g    | 10 min   | 10.5 %     |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 5 g    | 10 min   | 15.5 %     |
| Aroma (end of boil) | Mosaic                 | 5 g    | 5 min    | 10 %       |
| Aroma (end of boil) | Centennial             | 5 g    | 5 min    | 10.5 %     |
| Dry Hop             | Mosaic                 | 10 g   | 5 day(s) | 10 %       |
| Dry Hop             | Centennial             | 10 g   | 5 day(s) | 10.5 %     |

|         |                        |      |          |        |
|---------|------------------------|------|----------|--------|
| Dry Hop | Columbus/Tomahawk/Zeus | 10 g | 5 day(s) | 15.5 % |
|---------|------------------------|------|----------|--------|

### Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale  | Dry  | 11 g   | Safbrew    |