

# DAPA

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **77**
- SRM **8.6**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **32 liter(s)**
- Trub loss **5 %**
- Size with trub loss **33.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **40.5 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24.2 liter(s)**
- Total mash volume **32.2 liter(s)**

## Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **24.2 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **60 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **24.4 liter(s)** of **76C** water or to achieve **40.5 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount          | Yield | EBC |
|-------|----------------------------|-----------------|-------|-----|
| Grain | Viking Pale Ale malt       | 4.5 kg (55.9%)  | 85 %  | 5   |
| Grain | Viking Pilsner Malt        | 3.05 kg (37.9%) | 85 %  | 4   |
| Grain | Strzegom Karmel 300        | 0.15 kg (1.9%)  | 70 %  | 300 |
| Grain | Strzegom Czekoladowy jasny | 0.15 kg (1.9%)  | 68 %  | 400 |
| Grain | Płatki owsiane             | 0.2 kg (2.5%)   | 85 %  | 3   |

## Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Marynka                | 30 g   | 60 min   | 10 %       |
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 60 min   | 15.5 %     |
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 20 min   | 15.5 %     |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 20 g   | 5 min    | 15.5 %     |
| Aroma (end of boil) | Citra                  | 25 g   | 5 min    | 12 %       |
| Aroma (end of boil) | Simcoe                 | 15 g   | 1 min    | 13.2 %     |
| Aroma (end of boil) | Cascade                | 20 g   | 1 min    | 6 %        |
| Dry Hop             | Cascade                | 55 g   | 6 day(s) | 6 %        |

|         |          |      |          |       |
|---------|----------|------|----------|-------|
| Dry Hop | Amarillo | 45 g | 6 day(s) | 9.5 % |
|---------|----------|------|----------|-------|

## Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 200 ml | ---        |