

cascade single hop APA

- Gravity **13.9 BLG**
- ABV ---
- IBU **42**
- SRM ---
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **72 C**, Time **30 min**
- Temp **64 C**, Time **30 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **17.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------|------------|-------|-----|
| Grain | słód pale ale | 2 kg (50%) | --- % | --- |
| Grain | słód wiedeński | 1 kg (25%) | --- % | --- |
| Grain | słód monachijski | 1 kg (25%) | --- % | --- |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|----------|------------|
| Boil | Cascade | 40 g | 60 min | 6 % |
| Boil | Cascade | 10 g | 30 min | 6 % |
| Boil | Cascade | 10 g | 15 min | 6 % |
| Boil | Cascade | 25 g | 10 min | 6 % |
| Aroma (end of boil) | Cascade | 10 g | 5 min | 6 % |
| Aroma (end of boil) | Cascade | 10 g | 1 min | 6 % |
| Dry Hop | Cascade | 25 g | 7 day(s) | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------------------|------|------|--------|-----------------|
| Mangrove Jack's M44 US West Coast | Ale | Dry | 10 g | Mangrove Jack's |