

C-3PO

- Gravity **13 BLG**
- ABV ---
- IBU **33**
- SRM **6.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

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

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|-----------------|-------|-----|
| Grain | Strzegom Pale Ale | 4.5 kg (81.8%) | 79 % | 6 |
| Grain | Strzegom Monachijski typ II | 0.75 kg (13.6%) | 79 % | 22 |
| Grain | Pszeniczny | 0.25 kg (4.5%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 10 g | 20 min | 15.5 % |
| Boil | Equinox | 10 g | 15 min | 13.1 % |
| Boil | Citra | 10 g | 15 min | 12 % |
| Boil | Citra | 10 g | 10 min | 12 % |
| Boil | Cascade | 10 g | 10 min | 6 % |
| Boil | Cascade | 10 g | 5 min | 6 % |
| Boil | Citra | 10 g | 5 min | 12 % |
| Aroma (end of boil) | Citra | 20 g | 0 min | 12 % |
| Aroma (end of boil) | Cascade | 20 g | 0 min | 6 % |
| Aroma (end of boil) | Equinox | 20 g | 0 min | 13.1 % |
| Dry Hop | Equinox | 20 g | 3 day(s) | 13.1 % |
| Dry Hop | Citra | 20 g | 3 day(s) | 12 % |
| Dry Hop | Cascade | 20 g | 3 day(s) | 6 % |

Yeasts

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