

4# APAP

- Gravity **12.6 BLG**
- ABV ---
- IBU **39**
- SRM **6.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.63 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.5 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **73.5C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|---------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 5 kg (90.9%) | 85 % | 7 |
| Grain | Carahell | 0.5 kg (9.1%) | 77 % | 26 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 10 g | 60 min | 15.5 % |
| Boil | Citra | 20 g | 60 min | 12 % |
| Boil | Citra | 5 g | 5 min | 12 % |

Yeasts

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