

APA

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **29**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.7 liter(s)**
- Total mash volume **19.6 liter(s)**

Steps

- Temp **64 C**, Time **60 min**

Mash step by step

- Heat up **14.7 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 3.8 kg (77.6%) | 85 % | 7 |
| Grain | Pszeniczny | 0.5 kg (10.2%) | 85 % | 4 |
| Grain | Barley, Flaked | 0.2 kg (4.1%) | 70 % | 4 |
| Grain | Oats, Flaked | 0.2 kg (4.1%) | 80 % | 2 |
| Grain | Wheat, Flaked | 0.2 kg (4.1%) | 77 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 5 g | 60 min | 15.5 % |
| Boil | Columbus/Tomahawk/Zeus | 5 g | 30 min | 15.5 % |
| Boil | Simcoe | 20 g | 10 min | 13.2 % |
| Aroma (end of boil) | Simcoe | 20 g | 2 min | 13.2 % |
| Aroma (end of boil) | Centennial | 10 g | 2 min | 10.5 % |
| Aroma (end of boil) | Galaxy | 10 g | 2 min | 15 % |
| Dry Hop | Simcoe | 10 g | 3 day(s) | 13.2 % |
| Dry Hop | Centennial | 20 g | 3 day(s) | 10.5 % |
| Dry Hop | Galaxy | 20 g | 3 day(s) | 15 % |