

# Apa

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **35**
- SRM **4.2**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.5 liter(s)**
- Total mash volume **26.4 liter(s)**

## Steps

- Temp **62 C**, Time **20 min**
- Temp **68 C**, Time **40 min**
- Temp **77 C**, Time **1 min**

## Mash step by step

- Heat up **20.5 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **40 min** at **68C**
- Keep mash **1 min** at **77C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount          | Yield | EBC |
|-------|----------------------|-----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4.18 kg (71.4%) | 80 %  | 5   |
| Grain | Bestmaltz przenica   | 0.84 kg (14.3%) | --- % | 5   |
| Grain | Viking cara          | 0.84 kg (14.3%) | --- % | 5   |

## Hops

| Use for             | Name                   | Amount  | Time   | Alpha acid |
|---------------------|------------------------|---------|--------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 10.45 g | 30 min | 15.5 %     |
| Aroma (end of boil) | Citra                  | 10.45 g | 15 min | 12 %       |
| Whirlpool           | Amarillo               | 41.82 g | 20 min | 9.5 %      |
| Whirlpool           | Citra                  | 20.91 g | 15 min | 12 %       |

## Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| Us-05 | Ale  | Dry  | 4.18 g | ---        |