

## PA PA APA

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- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **42**
- SRM **3.3**
- 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 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **25 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **25 min** at **64C**
- Keep mash **25 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **22.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4 kg (88.9%)   | 80 %  | 5   |
| Grain | Pszeniczny           | 0.5 kg (11.1%) | 85 %  | 4   |

### Hops

| Use for   | Name    | Amount | Time   | Alpha acid |
|-----------|---------|--------|--------|------------|
| Boil      | Citra   | 14 g   | 60 min | 14.2 %     |
| Boil      | Cascade | 29 g   | 30 min | 7.7 %      |
| Boil      | Summit  | 20 g   | 5 min  | 14.3 %     |
| Whirlpool | Cascade | 25 g   | 0 min  | 7.7 %      |

### Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale  | Dry  | 5 g    | ---        |