

## Pale ale

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **39**
- SRM **4.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **26 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **35.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **30.8 liter(s)**

### Steps

- Temp **64 C**, Time **15 min**
- Temp **73 C**, Time **60 min**
- Temp **78 C**, Time **3 min**

### Mash step by step

- Heat up **23.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **60 min** at **73C**
- Keep mash **3 min** at **78C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **35.8 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount        | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (62.5%)  | 70 %  | 5   |
| Grain | Strzegom Pszeniczny  | 1 kg (12.5%)  | 70 %  | 6   |
| Grain | Carahell             | 0.3 kg (3.8%) | 70 %  | 26  |
| Grain | Strzegom Pilzneński  | 1 kg (12.5%)  | 70 %  | 4   |
| Grain | Płatki owsiane       | 0.4 kg (5%)   | 70 %  | 3   |
| Sugar | Glukoza              | 0.3 kg (3.8%) | 100 % | 0   |

### Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Citra                  | 10 g   | 60 min   | 12 %       |
| Boil                | Columbus/Tomahawk/Zeus | 20 g   | 40 min   | 15.5 %     |
| Aroma (end of boil) | Citra                  | 20 g   | 5 min    | 12 %       |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 20 g   | 5 min    | 15.5 %     |
| Dry Hop             | Cascade                | 25 g   | 3 day(s) | 6 %        |
| Dry Hop             | Citra                  | 25 g   | 3 day(s) | 12 %       |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |

### Extras

| Type   | Name            | Amount | Use for   | Time     |
|--------|-----------------|--------|-----------|----------|
| Flavor | Pulpa mango     | 800 g  | Secondary | 5 day(s) |
| Flavor | Sok jabko+mango | 1000 g | Secondary | 5 day(s) |