

sour 1

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **9**
- SRM **4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **20 min** at **63C**
- Keep mash **40 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|------------|-------|-----|
| Grain | Viking Pale Ale malt | 3 kg (60%) | 80 % | 5 |
| Grain | Viking Pilsner malt | 1 kg (20%) | 82 % | 4 |
| Grain | Pszeniczny | 1 kg (20%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|----------|--------|--------|------------|
| Boil | Warrior | 5 g | 60 min | 15.5 % |
| Whirlpool | Amarillo | 5 g | 1 min | 8.8 % |
| Whirlpool | Mosaic | 20 g | 1 min | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 400 g | Safale |

Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

| | | | | |
|--------|-------------|--------|-----------|-----------|
| Flavor | Pulpa mango | 1600 g | Secondary | 10 day(s) |
|--------|-------------|--------|-----------|-----------|