

# Improviza

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **38**
- SRM **4.3**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **34.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **26.6 liter(s)**
- Total mash volume **34.2 liter(s)**

## Steps

- Temp **52 C**, Time **30 min**
- Temp **67 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **26.6 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **30 min** at **52C**
- Keep mash **90 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **34.2 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4.8 kg (63.2%) | 80 %  | 5   |
| Grain | Viking Pilsner malt  | 1 kg (13.2%)   | 82 %  | 4   |
| Grain | Pszeniczny           | 1.3 kg (17.1%) | 85 %  | 4   |
| Grain | Płatki owsiane       | 0.5 kg (6.6%)  | 85 %  | 3   |

## Hops

| Use for             | Name         | Amount | Time   | Alpha acid |
|---------------------|--------------|--------|--------|------------|
| Boil                | Chinook      | 18 g   | 60 min | 13 %       |
| Boil                | Sticklebract | 25 g   | 20 min | 12 %       |
| Aroma (end of boil) | WAI-ITI      | 25 g   | 5 min  | 4.1 %      |
| Aroma (end of boil) | Sticklebract | 25 g   | 5 min  | 12 %       |
| Aroma (end of boil) | Sticklebract | 25 g   | 0 min  | 12 %       |
| Aroma (end of boil) | Sticklebract | 25 g   | 0 min  | 12 %       |
| Aroma (end of boil) | WAI-ITI      | 25 g   | 0 min  | 4.1 %      |
| Aroma (end of boil) | Chinook      | 10 g   | 0 min  | 11 %       |
| Whirlpool           | Centennial   | 28 g   | 0 min  | 10.5 %     |

78 C dodano chmiel - cały czas chłodząc brzeczkę.

|           |         |      |       |       |
|-----------|---------|------|-------|-------|
| Whirlpool | Cascade | 28 g | 0 min | 8.1 % |
|-----------|---------|------|-------|-------|

### Yeasts

| Name                        | Type | Form   | Amount | Laboratory       |
|-----------------------------|------|--------|--------|------------------|
| FM54 Gorączka kalifornijska | Ale  | Liquid | 30 ml  | Fermentum Mobile |

### Extras

| Type        | Name            | Amount | Use for | Time    |
|-------------|-----------------|--------|---------|---------|
| Water Agent | Gips piwowarski | 4 g    | Mash    | 120 min |
| Spice       | Zest Pomarańcza | 20 g   | Boil    | 10 min  |