

## voodoo

- Gravity **15 BLG**
- ABV ---
- IBU **87**
- SRM **35.7**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

### Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **24.5 liter(s)**
- Total mash volume **31.5 liter(s)**

### Steps

- Temp **68 C**, Time **80 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **24.5 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC  |
|-------|----------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 5 kg (71.4%)   | 80 %  | 7.5  |
| Grain | Strzegom Wiedeński   | 1.2 kg (17.1%) | 79 %  | 12   |
| Grain | Carafa III           | 0.3 kg (4.3%)  | 70 %  | 1500 |
| Grain | Strzegom Barwiący    | 0.3 kg (4.3%)  | 68 %  | 1300 |
| Grain | Pszeniczny           | 0.2 kg (2.9%)  | 85 %  | 4    |

### Hops

| Use for | Name     | Amount | Time     | Alpha acid |
|---------|----------|--------|----------|------------|
| Boil    | Galaxy   | 20 g   | 60 min   | 15 %       |
| Boil    | Equinox  | 20 g   | 60 min   | 14.6 %     |
| Boil    | Citra    | 20 g   | 30 min   | 12 %       |
| Boil    | Cascade  | 20 g   | 30 min   | 6 %        |
| Boil    | Citra    | 30 g   | 10 min   | 12 %       |
| Boil    | Cascade  | 35 g   | 5 min    | 6 %        |
| Dry Hop | Citra    | 45 g   | 4 day(s) | 12 %       |
| Dry Hop | Amarillo | 45 g   | 4 day(s) | 9.5 %      |

### Yeasts

| Name                 | Type | Form  | Amount | Laboratory |
|----------------------|------|-------|--------|------------|
| FM52 Amerykański Sen | Ale  | Slant | 150 ml | ---        |