

# BLACK

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **22**
- SRM **26.8**
- Style **Black IPA**

## 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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

## Steps

- Temp **55 C**, Time **12 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **12 min** at **55C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **17.7 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  | 6 kg (85.7%)  | 80 %  | 5    |
| Grain | Strzegom Karmel 300   | 0.3 kg (4.3%) | 70 %  | 299  |
| Grain | Karmelowy Jasny 30EBC | 0.3 kg (4.3%) | 75 %  | 30   |
| Grain | Carafa III            | 0.4 kg (5.7%) | 70 %  | 1200 |

## Hops

| Use for   | Name       | Amount | Time     | Alpha acid |
|-----------|------------|--------|----------|------------|
| Boil      | Warrior    | 16 g   | 60 min   | 15.5 %     |
| Whirlpool | Cascade    | 45 g   | 1 min    | 7.1 %      |
| Whirlpool | Centennial | 45 g   | 1 min    | 9.4 %      |
| Whirlpool | Simcoe     | 45 g   | 1 min    | 13.2 %     |
| Dry Hop   | Cascade    | 40 g   | 4 day(s) | 7.1 %      |
| Dry Hop   | Centennial | 40 g   | 4 day(s) | 9.4 %      |
| Dry Hop   | Simcoe     | 40 g   | 4 day(s) | 13.2 %     |

**Yeasts**

| Name              | Type | Form | Amount | Laboratory |
|-------------------|------|------|--------|------------|
| mauribrew Draught | Ale  | Dry  | 15 g   | Mauribrew  |