

## Black IPA

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **41**
- SRM **19.7**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **1 %**
- Size with trub loss **25.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **1 %/h**
- Boil size **26.1 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.8 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **25.4 liter(s)**

### Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **20.1 liter(s)** of strike water to **68.7C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.3 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

### Fermentables

| Type  | Name                     | Amount        | Yield | EBC |
|-------|--------------------------|---------------|-------|-----|
| Grain | Pilzneński               | 4.4 kg (83%)  | 81 %  | 4   |
| Grain | Karmelowy Jasny<br>30EBC | 0.5 kg (9.4%) | 75 %  | 30  |
| Grain | Czekoladowy              | 0.4 kg (7.5%) | 60 %  | 788 |

### Hops

| Use for | Name                   | Amount | Time     | Alpha acid |
|---------|------------------------|--------|----------|------------|
| Boil    | Columbus/Tomahawk/Zeus | 10 g   | 60 min   | 15.5 %     |
| Boil    | Centennial             | 25 g   | 30 min   | 10.5 %     |
| Boil    | Simcoe                 | 25 g   | 5 min    | 13.2 %     |
| Dry Hop | Centennial             | 25 g   | 5 day(s) | 10.5 %     |
| Dry Hop | Simcoe                 | 25 g   | 5 day(s) | 13.2 %     |

### Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11 g   | Fermentis  |