

## Black IPA

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **43**
- SRM **21**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **44 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **48.3 liter(s)**

### Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **32 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**

### Mash step by step

- Heat up **24 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **32.3 liter(s)** of **76C** water or to achieve **48.3 liter(s)** of wort

### Fermentables

| Type           | Name                       | Amount         | Yield | EBC  |
|----------------|----------------------------|----------------|-------|------|
| Grain          | Pilzneński                 | 5 kg (52.6%)   | 81 %  | 4    |
| Grain          | Viking Pale Ale malt       | 1.5 kg (15.8%) | 80 %  | 5    |
| Grain          | Strzegom Barwiący          | 0.5 kg (5.3%)  | 68 %  | 1300 |
| Grain          | Płatki pszeniczne          | 1 kg (10.5%)   | 85 %  | 3    |
| Liquid Extract | WES ekstrakt słodowy jasny | 1 kg (10.5%)   | 80 %  | ---  |
| Sugar          | cukier                     | 0.5 kg (5.3%)  | 100 % | ---  |

### Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 50 g   | 60 min | 15.5 %     |
| Boil                | Columbus/Tomahawk/Zeus | 15 g   | 10 min | 15.5 %     |
| Aroma (end of boil) | Galaxy                 | 30 g   | 0 min  | 15 %       |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 35 g   | 0 min  | 15.5 %     |