

Black IPA

- Gravity **15.9 BLG**
- ABV ---
- IBU **86**
- SRM **37.6**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **12.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **16.1 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.6 liter(s)**
- Total mash volume **16.2 liter(s)**

Steps

- Temp **68 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **12.6 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **7.1 liter(s)** of **76C** water or to achieve **16.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|------|
| Grain | Strzegom Pale Ale | 2.7 kg (75%) | 79 % | 6 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (13.9%) | 79 % | 16 |
| Grain | Strzegom pszeniczny | 0.2 kg (5.6%) | 81 % | 6 |
| Grain | Carafa special III | 0.2 kg (5.6%) | 70 % | 1300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 20 g | 60 min | 15.5 % |
| Boil | Mosaic | 10 g | 20 min | 10 % |
| Boil | Simcoe | 10 g | 20 min | 13 % |
| Boil | Mosaic | 5 g | 10 min | 10 % |
| Boil | Simcoe | 5 g | 10 min | 13 % |
| Boil | Cascade | 10 g | 10 min | 6 % |
| Aroma (end of boil) | Mosaic | 5 g | 0 min | 10 % |
| Aroma (end of boil) | Simcoe | 5 g | 0 min | 13 % |
| Aroma (end of boil) | Cascade | 10 g | 0 min | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 60 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-----------------|--------|---------|--------|
| Water Agent | gips piwowarski | 2 g | Mash | 60 min |