

Black IPA

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **63**
- SRM **32.2**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **8 liter(s)**
- Trub loss **5 %**
- Size with trub loss **8.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **10.1 liter(s)**

Mash information

- Mash efficiency **71 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.3 liter(s)**
- Total mash volume **11 liter(s)**

Steps

- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **8.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **4.6 liter(s)** of **76C** water or to achieve **10.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 1.8 kg (65.2%) | 80 % | 5 |
| Grain | Strzegom Karmel 150 | 0.04 kg (1.4%) | 75 % | 150 |
| Grain | Weyermann - Carapils | 0.04 kg (1.4%) | 78 % | 4 |
| Grain | Jęczmień palony | 0.24 kg (8.7%) | 55 % | 985 |
| Grain | Płatki owsiane | 0.12 kg (4.3%) | 85 % | 3 |
| Grain | Żytni | 0.12 kg (4.3%) | 85 % | 8 |
| Grain | Pszoniczny | 0.4 kg (14.5%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 8 g | 60 min | 15.5 % |
| Boil | Columbus/Tomahawk/Zeus | 6 g | 20 min | 15.5 % |
| Boil | Citra | 4 g | 20 min | 12 % |
| Boil | Columbus/Tomahawk/Zeus | 6 g | 10 min | 15.5 % |
| Boil | Citra | 4 g | 10 min | 12 % |
| Boil | Cascade | 8 g | 0 min | 6 % |

| | | | | |
|------|-------|-----|-------|------|
| Boil | Citra | 4 g | 0 min | 12 % |
|------|-------|-----|-------|------|

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 10 g | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-----------------|--------|---------|-------|
| Water Agent | Gips piwowarski | 5 g | Mash | 0 min |