

Black ipa

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **72**
- SRM **24.6**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **48 liter(s)**
- Trub loss **5 %**
- Size with trub loss **50.4 liter(s)**
- Boil time **75 min**
- Evaporation rate **5 %/h**
- Boil size **56.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **36 liter(s)**
- Total mash volume **48 liter(s)**

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|--------------|-------|-----|
| Grain | Pilzneński | 8 kg (66.7%) | 81 % | 4 |
| Grain | Weyermann - Carared | 1 kg (8.3%) | 75 % | 45 |
| Grain | Weyermann - Carafa I | 1 kg (8.3%) | 70 % | 900 |
| Grain | Płatki owsiane | 1 kg (8.3%) | 85 % | 3 |
| Grain | Żytni | 1 kg (8.3%) | 85 % | 8 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 50 min | 15.5 % |
| Boil | Chinook | 50 g | 20 min | 13 % |
| Boil | Chinook | 50 g | 10 min | 13 % |
| Boil | Simcoe | 50 g | 15 min | 13.2 % |
| Boil | Simcoe | 50 g | 5 min | 13.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|-------|--------|-------------|
| Wyeast - American Ale | Ale | Slant | 100 ml | Wyeast Labs |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|------|--------|---------|--------|
| Water Agent | gips | 5 g | Boil | 10 min |