

Czarno to widzę

- Gravity **15.2 BLG**
- ABV ---
- IBU **37**
- SRM **33.1**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **26.1 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **18.2 liter(s)**
- Total mash volume **24.7 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **18.2 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|---------------|--------|-----|
| Grain | Strzegom Pilzneński | 5 kg (76.9%) | 80 % | 4 |
| Grain | Strzegom Karmel 300 | 0.3 kg (4.6%) | 70 % | 299 |
| Grain | Weyermann - Carafa I | 0.1 kg (1.5%) | 70 % | 690 |
| Grain | Jęczmień palony | 0.2 kg (3.1%) | 55 % | 985 |
| Grain | Płatki owsiane | 0.4 kg (6.2%) | 85 % | 3 |
| Grain | BESTMALZ - Best Pilsen | 0.5 kg (7.7%) | 80.5 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------------|--------|--------|------------|
| Boil | Aurora | 35 g | 55 min | 8.5 % |
| Boil | Styrian Golding | 40 g | 10 min | 3.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |