

Czarny jak Smoła

- Gravity **15.7 BLG**
- ABV ---
- IBU **117**
- SRM **50.6**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **29 liter(s)**
- Trub loss **5 %**
- Size with trub loss **30.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **37.3 liter(s)**

Mash information

- Mash efficiency **87 %**
- Liquor-to-grist ratio **3.25 liter(s) / kg**
- Mash size **23.6 liter(s)**
- Total mash volume **30.8 liter(s)**

Steps

- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **23.6 liter(s)** of strike water to **74.2C**
- Add grains
- Keep mash **50 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **21 liter(s)** of **76C** water or to achieve **37.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------------|-----------------|-------|------|
| Grain | Casle Malting Whisky | 2.5 kg (34.5%) | 85 % | 4 |
| Grain | Viking Pale Ale malt | 2.5 kg (34.5%) | 80 % | 5 |
| Grain | Abbey Castle | 0.75 kg (10.3%) | 80 % | 45 |
| Grain | Weyermann - Dehusked Carafa III | 0.5 kg (6.9%) | 70 % | 1024 |
| Grain | Strzegom Karmel 300 | 0.5 kg (6.9%) | 70 % | 299 |
| Grain | Roasted Barley | 0.25 kg (3.4%) | 55 % | 1200 |
| Grain | Oats, Flaked | 0.25 kg (3.4%) | 80 % | 2 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Rakau (NZ) | 100 g | 60 min | 10.7 % |
| Boil | Rakau (NZ) | 55 g | 25 min | 10.7 % |
| Boil | Rakau (NZ) | 45 g | 5 min | 10.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|-------------|-----|-----|------|--------|
| Safale S-04 | Ale | Dry | 10 g | Safale |
|-------------|-----|-----|------|--------|