

Darth Porter

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **47**
- SRM **23.8**
- Style **Robust Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **21.6 liter(s)**

Steps

- Temp **69 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **5 min** at **76C**
- Sparge using **12.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|--------|------|
| Grain | Viking Pale Ale malt | 3.5 kg (72.9%) | 80 % | 5 |
| Grain | Strzegom Karmel 30 | 0.5 kg (10.4%) | 75 % | 30 |
| Grain | Karmel Pils | 0.5 kg (10.4%) | 80.5 % | 2 |
| Grain | Strzegom Czekoladowy 1200 | 0.15 kg (3.1%) | 68 % | 1202 |
| Grain | Strzegom Barwiący | 0.15 kg (3.1%) | 68 % | 1300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnum | 30 g | 60 min | 13.5 % |
| Boil | Lublin (Lubelski) | 15 g | 20 min | 3.8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------|------|-------|--------|------------------|
| FM13 Irlandzkie Ciemności | Ale | Slant | 100 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

| | | | | |
|-------------|----------------|------|------|--------|
| Water Agent | chlorek wapnia | 10 g | Boil | 60 min |
|-------------|----------------|------|------|--------|