

Smolarz

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **24**
- SRM **23.4**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **25.8 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **74 C**, Time **10 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **74C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------------|----------------|-------|-----|
| Grain | Słód Wędzony Steinbach | 3 kg (46.5%) | 80 % | 5 |
| Grain | Brown Malt (British Chocolate) | 1 kg (15.5%) | 70 % | 128 |
| Grain | Płatki owsiane | 0.6 kg (9.3%) | 85 % | 3 |
| Grain | Jęczmień palony | 0.25 kg (3.9%) | 55 % | 985 |
| Grain | Płatki pszeniczne | 0.6 kg (9.3%) | 85 % | 3 |
| Grain | Viking Pale Ale malt | 1 kg (15.5%) | 80 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Willamette | 20 g | 20 min | 5 % |
| Boil | Marynka | 20 g | 60 min | 10 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale | Dry | 11 g | Danstar |