

Wyjazowe?

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **33**
- SRM **22.9**
- 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 **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.1 liter(s)**
- Total mash volume **18.8 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **14.1 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **77C**
- Sparge using **15.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|-------|------|
| Grain | Jęczmień niesłodowany | 0.6 kg (12.8%) | 75 % | 2 |
| Grain | Viking Pale Ale malt | 2 kg (42.6%) | 80 % | 5 |
| Grain | Pszeniczny | 1.5 kg (31.9%) | 85 % | 4 |
| Grain | Strzegom Czekoladowy 1200 | 0.3 kg (6.4%) | 68 % | 1202 |
| Grain | Strzegom Karmel 30 | 0.3 kg (6.4%) | 75 % | 30 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil | Magnum | 20 g | 60 min | 11.5 % |
| Boil | Magnum | 15 g | 10 min | 11.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|-------|--------|------------------|
| FM11 Wichrowe Wzgórza | Ale | Slant | 100 ml | Fermentum Mobile |