

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	Pszoniczny	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