

ciemny Angol

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **48**
- SRM **29.3**
- 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 **85 %**
- 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 **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **14.1 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- 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	Viking Pale Ale malt	3.6 kg (76.6%)	80 %	6
Grain	Brown Malt (British Chocolate)	0.4 kg (8.5%)	70 %	175
Grain	Caramel/Crystal Malt - 120L	0.4 kg (8.5%)	72 %	236
Grain	Strzegom Czekoladowy 1200	0.2 kg (4.3%)	68 %	1202
Grain	Carafa III	0.1 kg (2.1%)	70 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	60 min	11 %
Boil	lunga	20 g	15 min	11 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Slant	150 ml	Fermentum Mobile