

Wolność

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **43**
- SRM **13.4**
- Style **American Brown Ale**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.9 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **55 C**, Time **10 min**
- Temp **64 C**, Time **35 min**
- Temp **72 C**, Time **35 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.9 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **35 min** at **64C**
- Keep mash **35 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **19.1 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (89%)	80 %	5
Grain	Abbey Malt Weyermann	0.25 kg (4.4%)	75 %	45
Grain	Weyermann - Caraamber	0.25 kg (4.4%)	75 %	65
Grain	Strzegom Barwiący	0.12 kg (2.1%)	68 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	30 g	60 min	13.3 %
Aroma (end of boil)	Cascade	30 g	10 min	6.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis