

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 |