

Roggenbier

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **18**
- SRM **11.6**
- Style **Roggenbier**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.5 liter(s)**
- Total mash volume **14.8 liter(s)**

Steps

- Temp **44 C**, Time **15 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **11.5 liter(s)** of strike water to **47.4C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **30 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **5.8 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|---------------|-------|-----|
| Grain | Viking Munich Malt | 1 kg (30.3%) | 78 % | 20 |
| Grain | Rye Malt | 2 kg (60.6%) | 63 % | 10 |
| Grain | Słód Caramunich Typ II Weyermann | 0.3 kg (9.1%) | 73 % | 120 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | lunga | 8 g | 60 min | 11 % |
| Boil | Izabella | 10 g | 1 min | 5.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------|-------|--------|--------|------------------|
| FM41 Gwoździe i Banany | Wheat | Liquid | 0.8 ml | Fermentum Mobile |