

Roggenbier

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **14**
- SRM **15.9**
- Style **Roggenbier**

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 **13.2 liter(s)**
- Total mash volume **17.6 liter(s)**

Steps

- Temp **44 C**, Time **20 min**
- Temp **62 C**, Time **40 min**
- Temp **64 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

Mash step by step

- Heat up **13.2 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **64C**
- Keep mash **5 min** at **79C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|---------------|-------|------|
| Grain | Żytni | 2 kg (45.5%) | 85 % | 8 |
| Grain | Monachijski | 1.1 kg (25%) | 80 % | 18 |
| Grain | Strzegom Pilzneński | 1 kg (22.7%) | 80 % | 4 |
| Grain | Caraaroma | 0.2 kg (4.5%) | 78 % | 350 |
| Grain | Carafa II | 0.1 kg (2.3%) | 70 % | 1150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Lublin (Lubelski) | 20 g | 60 min | 4.5 % |
| Boil | Lublin (Lubelski) | 20 g | 10 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|-------|------|--------|------------|
| WB-06 | Wheat | Dry | 11.5 g | Safbrew |