

Na rogi

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **24**
- SRM **16.9**
- 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 **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **11.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------------|---------------|-------|-----|
| Grain | Weyermann - Rye Malt | 2 kg (36.4%) | 81 % | 7 |
| Grain | Weyermann - Bohemian Pilsner Malt | 2 kg (36.4%) | 81 % | 4 |
| Grain | Weyermann - Munich Malt Type 2 | 1 kg (18.2%) | 78 % | 23 |
| Grain | weyermann - Caraaroma | 0.5 kg (9.1%) | 78 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------|--------|--------|------------|
| Boil | Simcoe | 15 g | 30 min | 13.2 % |
| Boil | Simcoe | 10 g | 20 min | 13.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------------|------|------|--------|-----------------|
| Mangrove Jack's M36 Liberty Bell Ale | Ale | Dry | 10 g | Mangrove Jack's |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | Mech irlandzki | 5 g | Boil | 10 min |