

ROGUS

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **20**
- SRM **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 **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **44 C**, Time **20 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Pilzneński | 2.5 kg (47.2%) | 81 % | 4 |
| Grain | Żytni | 2 kg (37.7%) | 85 % | 8 |
| Grain | Strzegom Monachijski typ I | 0.4 kg (7.5%) | 79 % | 16 |
| Grain | Karmelowy żytni Strzegom | 0.4 kg (7.5%) | 75 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil | Tradition | 25 g | 60 min | 5.5 % |
| Boil | Tradition | 15 g | 15 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------------------|------|--------|--------|-------------|
| Wyeast - Bavarian Wheat | Ale | Liquid | 100 ml | Wyeast Labs |