

## #52 Roggen

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **22**
- SRM **8.9**
- Style **Roggenbier**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **4 %**
- Size with trub loss **21.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **83.5 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.9 liter(s)**
- Total mash volume **21.7 liter(s)**

### Steps

- Temp **48 C**, Time **5 min**
- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **77 C**, Time **2 min**

### Mash step by step

- Heat up **16.9 liter(s)** of strike water to **52C**
- Add grains
- Keep mash **5 min** at **48C**
- Keep mash **30 min** at **66C**
- Keep mash **40 min** at **72C**
- Keep mash **2 min** at **77C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	2 kg (41.5%)	85 %	8
Grain	Briess - Pale Ale Malt	1.5 kg (31.2%)	80 %	7
Grain	Strzegom Monachijski typ I	0.65 kg (13.5%)	79 %	16
Grain	Pszeniczny	0.415 kg (8.6%)	85 %	4
Grain	Abbey Malt Weyermann	0.2 kg (4.2%)	75 %	45
Grain	Black (Patent) Malt	0.05 kg (1%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	45 min	11 %
Boil	lunga	15 g	10 min	11 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	150 ml	---

## Extras

Type	Name	Amount	Use for	Time
Fining	WhirlFloc	1.25 g	Boil	12 min
Water Agent	Kwas mlekowy	3 g	Mash	0 min