

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