

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **12**
- SRM **18.2**
- Style **Roggenbier**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.8 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **38.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **27 liter(s)**

Steps

- Temp **47 C**, Time **40 min**
- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **20.3 liter(s)** of strike water to **51.5C**
- Add grains
- Keep mash **40 min** at **47C**
- Keep mash **10 min** at **52C**
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **25.4 liter(s)** of **76C** water or to achieve **38.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Karmelowy żytni Strzegom	2.57 kg (38.1%)	75 %	150
Grain	Strzegom Pilzneński	2.9 kg (42.9%)	80 %	4
Grain	Monachijski	1.29 kg (19%)	80 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	21.43 g	10 min	7 %
Boil	Perle	10.71 g	40 min	7 %
Boil	Perle	5.36 g	60 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safbrew WB-06	Wheat	Dry	7.5 g	Safbrew