

# Świąteczne (robo)

- Gravity **21.3 BLG**
- ABV **9.5 %**
- IBU **31**
- SRM **27.8**
- Style **Old Ale**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **26.1 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **20.3 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **1 min** at **78C**
- Sparge using **0.7 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann Pale Ale	5 kg (86.2%)	79 %	6.5
Grain	Caramber 60-80	0.6 kg (10.3%)	75 %	70
Grain	Carafa II Weyermann	0.2 kg (3.4%)	65 %	1150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	12 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	7.3 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Spice	cynamon	1.25 g	Boil	15 min
Spice	goździki	1 g	Boil	10 min
Spice	imbir	1.25 g	Boil	15 min
Spice	kardamon	1 g	Boil	15 min
Flavor	orange peel	14 g	Boil	10 min