

# 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 |