

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 |