

Świąteczne

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **54**
- SRM **32.3**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **23.4 liter(s)**
- Total mash volume **30.5 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **23.4 liter(s)** of strike water to **75.3C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|------|
| Grain | Viking Pale Ale malt | 5 kg (70.4%) | 80 % | 5 |
| Grain | Płatki owsiane | 0.4 kg (5.6%) | 85 % | 3 |
| Grain | Płatki żytnie | 0.2 kg (2.8%) | 85 % | 8 |
| Grain | Strzegom Karmel 150 | 1 kg (14.1%) | 75 % | 150 |
| Grain | Strzegom Czekoladowy ciemny | 0.3 kg (4.2%) | 68 % | 1200 |
| Grain | Jęczmień palony | 0.2 kg (2.8%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnum | 50 g | 60 min | 12 % |
| Boil | Mandarina Bavaria | 10 g | 15 min | 8.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 11.2 g | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-------------------|--------|-----------|----------|
| Spice | Imbir | 10 g | Boil | 15 min |
| Spice | Cynamon | 5 g | Boil | 15 min |
| Spice | Goździki | 1 g | Boil | 15 min |
| Flavor | Skórka pomarańczy | 20 g | Secondary | 4 day(s) |
| Spice | Imbir | 5 g | Secondary | 4 day(s) |
| Spice | Cynamon | 5 g | Secondary | 4 day(s) |
| Spice | Goździki | 1 g | Secondary | 4 day(s) |
| Spice | Anyż nasiona | 1 g | Secondary | 4 day(s) |