

Świąteczne

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **31**
- SRM **36.6**

Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **20.3 liter(s)**

Steps

- Temp **66 C**, Time **70 min**
- Temp **76 C**, Time **0 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **70 min** at **66C**
- Keep mash **0 min** at **76C**
- Sparge using **8.2 liter(s)** of **76C** water or to achieve **20.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|----------------|-------------------------------------|-----------------|--------|------|
| Grain | Briess - Pale Ale Malt | 2.6 kg (50.8%) | 80 % | 7 |
| Grain | Strzegom Karmel 150 | 0.35 kg (6.8%) | 75 % | 150 |
| Grain | Fawcett - Chocolate | 0.175 kg (3.4%) | 71 % | 1100 |
| Grain | Carafa Specjal III | 0.175 kg (3.4%) | 70 % | 1200 |
| Grain | Weyermann® - Pszeniczny Czekoladowy | 0.14 kg (2.7%) | 73 % | 800 |
| Grain | Strzegom Monachijski typ I | 0.44 kg (8.6%) | 79 % | 16 |
| Grain | Weyermann Monachijski typ II | 0.1 kg (2%) | 79 % | 22 |
| Grain | Strzegom Pszeniczny | 0.175 kg (3.4%) | 81 % | 6 |
| Sugar | Milk Sugar (Lactose) | 0.4 kg (7.8%) | 76.1 % | 0 |
| Liquid Extract | Miód Gryczany (Buckwheat Honey) | 0.56 kg (10.9%) | 70 % | 40 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 30 g | 60 min | 8.7 % |

Yeasts

Recipe has been printed via **BREWNES.com** - a complex online solution for homebrewers to track brewing process easily.

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-05 | Ale | Dry | 11.5 g | --- |

Extras

| Type | Name | Amount | Use for | Time |
|-------|----------------------------|--------|---------|--------|
| Spice | goździki | 3 g | Boil | 10 min |
| Spice | cynamon | 10 g | Boil | 10 min |
| Spice | kardamon | 5 g | Boil | 10 min |
| Spice | skórka z pomarańczy 3 szt. | 0 g | Boil | 10 min |