

zimowe-piernikowe

- Gravity **16.4 BLG**
- ABV ---
- IBU **8**
- SRM **17.3**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **21.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **14.7 liter(s)**
- Total mash volume **20.2 liter(s)**

Steps

- Temp **68 C**, Time **40 min**
- Temp **75 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **14.7 liter(s)** of strike water to **76.9C**
- Add grains
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **75C**
- Keep mash **5 min** at **78C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **21.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------|-----------------|-------|-----|
| Grain | Pilzneński | 1.85 kg (33.9%) | 81 % | 4 |
| Grain | Briess - Pale Ale Malt | 1.75 kg (32.1%) | 80 % | 7 |
| Grain | Monachijski | 1.05 kg (19.3%) | 80 % | 16 |
| Grain | Strzegom Bursztynowy | 0.7 kg (12.8%) | 70 % | 49 |
| Grain | Briess - Chocolate Malt | 0.1 kg (1.8%) | 60 % | 690 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------|--------|--------|------------|
| Boil | Hersbrucker | 15 g | 60 min | 3 % |
| Boil | Tettnang | 10 g | 30 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------------------|------|--------|--------|------------|
| WLP545 - Belgian Strong Ale Yeast | Ale | Liquid | 50 ml | White Labs |

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------------|--------|---------|-------|
| Spice | imbir | 5 g | Boil | 5 min |
| Other | skórka pomar | 5 g | Boil | 5 min |
| Spice | cynamion | 5 g | Boil | 5 min |