

# zimowe-piernikowe

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- 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 |