

# 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