

# Ciasteczkowa wymiana figur

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **46**
- SRM **24.8**
- Style **Christmas/Winter Specialty Spiced Beer**

## Batch size

- Expected quantity of finished beer **24.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **29.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **5.27 liter(s) / kg**
- Mash size **36.6 liter(s)**
- Total mash volume **43.6 liter(s)**

## Steps

- Temp **67 C**, Time **69 min**
- Temp **78 C**, Time **10 min**
- Temp **100 C**, Time **60 min**

## Mash step by step

- Heat up **36.6 liter(s)** of strike water to **71.5C**
- Add grains
- Keep mash **69 min** at **67C**
- Keep mash **10 min** at **78C**
- Keep mash **60 min** at **100C**
- Sparge using **-0.1 liter(s)** of **76C** water or to achieve **29.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (43.2%)	81 %	4
Grain	Pszeniczny	1 kg (14.4%)	85 %	4
Grain	Strzegom Karmel 300	1 kg (14.4%)	70 %	299
Grain	Karmelowy Czerwony	1 kg (14.4%)	75 %	59
Grain	Biscuit Malt	0.85 kg (12.2%)	79 %	45
Grain	Strzegom Czekoladowy 1200	0.1 kg (1.4%)	68 %	1202

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	25 g	20 min	5 %
Boil	Columbus/Tomahawk/Zeus	25 g	20 min	15.5 %
Boil	Chinook	13 g	5 min	13 %
Boil	Columbus/Tomahawk/Zeus	25 g	5 min	15.5 %
Boil	Marynka	60 g	5 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale t-58	Ale	Dry	11 g	Fermwntis

### Extras

Type	Name	Amount	Use for	Time
Spice	Przyprawa do piernika	27 g	Mash	55 min

### Notes

- Laktoza 250g '10  
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