

## Stout christmass

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- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **29**
- SRM **64.1**
- Style **Sweet Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **24.5 liter(s)**
- Total mash volume **31.5 liter(s)**

### Steps

- Temp **55 C**, Time **15 min**
- Temp **68 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **24.5 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **8.9 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (40%)	81 %	4
Grain	Viking Golden ale	1 kg (13.3%)	80 %	14
Grain	Żytni	1 kg (13.3%)	85 %	8
Grain	Strzegom Karmel 600	1 kg (13.3%)	68 %	601
Grain	Chocolate Malt (UK)	1 kg (13.3%)	73 %	1200
Sugar	Milk Sugar (Lactose)	0.5 kg (6.7%)	76.1 %	0

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	60 min	11 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	22 g	Safale
Danstar - Windsor Ale	Ale	Dry	22 g	Danstar

### Extras

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

Type	Name	Amount	Use for	Time
Water Agent	gips piwowarski	6 g	Mash	90 min
Flavor	wanilia laska	1 g	Boil	5 min
Flavor	Zest z 2 pomarańczy	30 g	Boil	5 min
Flavor	Godziki 5 sztuk	1 g	Boil	5 min
Flavor	Cynamon 1/2 laski	20 g	Boil	5 min