

## #10. X-mas stout

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **41**
- SRM **35.4**
- Style **Christmas/Winter Specialty Spiced Beer**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21.2 liter(s)**
- Total mash volume **27.3 liter(s)**

### Steps

- Temp **65 C**, Time **45 min**
- Temp **68 C**, Time **25 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **21.2 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **25 min** at **68C**
- Keep mash **1 min** at **76C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop ale	3.81 kg (54.8%)	80 %	5
Grain	Strzegom Karmel 150	0.63 kg (9.1%)	75 %	150
Grain	Strzegom Czekoladowy ciemny	0.25 kg (3.6%)	68 %	1200
Grain	Carafa II	0.25 kg (3.6%)	70 %	812
Grain	Carafa III	0.25 kg (3.6%)	70 %	1034
Grain	Strzegom Monachijski typ I	0.63 kg (9.1%)	79 %	16
Liquid Extract	Miód Gryczany (Buckwheat Honey)	0.88 kg (12.7%)	70 %	40
Grain	Pszeniczny	0.25 kg (3.6%)	85 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	14 %
Boil	Magnum	10 g	45 min	14 %
Boil	Magnum	10 g	30 min	14 %
Aroma (end of boil)	Magnum	5 g	15 min	14 %

Aroma (end of boil)	Magnum	5 g	5 min	14 %
Whirlpool	Magnum	5 g	0 min	14 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Slant	137.5 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Spice	Skórka z 4 pomarańczy	0 g	Boil	15 min
Flavor	Laktoza	562.5 g	Boil	15 min
Spice	Imbir	10 g	Boil	15 min
Spice	Goździki	10 g	Boil	15 min
Spice	Cynamon 3szt	15 g	Boil	15 min
Spice	Kardamon	7 g	Boil	15 min

## Notes

- Przed dodaniem laktozy - 14 Blg  
Po dodaniu laktozy - 16 Blg  
*Oct 24, 2017, 5:45 AM*