

## winter warmer

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- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **43**
- SRM **19.9**
- Style **Christmas/Winter Specialty Spiced Beer**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **33.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **32 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **71 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **24 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **71C**
- Keep mash **10 min** at **78C**
- Sparge using **17.1 liter(s)** of **76C** water or to achieve **33.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5 kg (62.5%)	85 %	7
Grain	Monachijski typ II 20-25 EBC Weyermann	1 kg (12.5%)	80 %	20
Grain	Caraaroma	0.5 kg (6.3%)	78 %	400
Grain	Strzegom Wiedeński	1 kg (12.5%)	79 %	10
Grain	Special B Castle	0.25 kg (3.1%)	70 %	350
Grain	Weyermann Caramunich 3	0.25 kg (3.1%)	76 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	13 %
Boil	Centennial	15 g	30 min	10.5 %
Boil	Mosaic	15 g	30 min	10 %
Boil	Willamette	15 g	15 min	5 %
Boil	Cascade	15 g	15 min	5.9 %
Boil	Centennial	15 g	5 min	10.5 %

Boil	Mosaic	15 g	5 min	10 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11 g	---

### Extras

Type	Name	Amount	Use for	Time
Spice	skórka pomarańczowa	20 g	Boil	10 min
Spice	goździki	8 g	Boil	10 min
Fining	mech	7 g	Boil	10 min
Other	melasa	450 g	Boil	10 min
Spice	cukier z wanilia	10 g	Boil	10 min
Spice	cynamon	1 g	Boil	10 min
Spice	sliwki wedzone	300 g	Boil	10 min