

# Christmas Ale

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- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **28**
- SRM **31.6**
- Style **American Stout**

## Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **22.4 liter(s)**
- Total mash volume **28.8 liter(s)**

## Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **22.4 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **7.8 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (78.1%)	80 %	5
Grain	Monachijski	0.5 kg (7.8%)	80 %	16
Grain	płatki jęczmienne	0.4 kg (6.3%)	80 %	5
Grain	Słód czekoladowy Viking	0.25 kg (3.9%)	68 %	1200
Grain	Jęczmień palony	0.25 kg (3.9%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	50 g	55 min	4.6 %
Boil	Oktawia	30 g	5 min	9 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM12 W szkocką kratę	Ale	Liquid	30 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Spice	Zestaw przypraw	30 g	Boil	5 min