

Christmas ale

- Gravity **19.3 BLG**
- ABV **8.4 %**
- IBU **47**
- SRM **34.3**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **4.7 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	colorado pale base	1 kg (25%)	79 %	6
Grain	monachijski	1 kg (25%)	80 %	25
Grain	Special B Castle	0.3 kg (7.5%)	77 %	290
Grain	caramel sweet	0.2 kg (5%)	75 %	60
Grain	Strzegom Pilzneński	1 kg (25%)	80 %	4
Grain	Biscuit Malt	0.3 kg (7.5%)	77 %	50
Grain	słód czekoladowy	0.1 kg (2.5%)	68 %	1000
Grain	Jęczmień palony	0.1 kg (2.5%)	70 %	1000

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Northdown	25 g	60 min	8.2 %
Aroma (end of boil)	flyer	20 g	10 min	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's -M15 Empire Ale	Ale	Dry	10 g	Mangrove Jack's

Extras

Type	Name	Amount	Use for	Time
Spice	gałka muskatołowa	3 g	Boil	15 min
Spice	pieprz czarny cały	4 g	Boil	15 min
Spice	goździki	1 g	Boil	15 min
Spice	przyprawa do ciastek korzennych	20 g	Boil	15 min
Water Agent	kwask mlekowy	4 g	Mash	60 min
Water Agent	chlerek wapnia	4 g	Mash	60 min

Notes

- chlerek i kwas w ml, po 2 ml na zacieranie i wystadzanie
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