

# Christmas Ale - na bazie FES

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **28**
- SRM **30.1**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **21.1 liter(s)**

## Mash information

- Mash efficiency **55 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.3 liter(s)**
- Total mash volume **20.4 liter(s)**

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (75.5%)	80 %	5
Grain	Carahell	0.5 kg (9.4%)	77 %	26
Grain	Strzegom Karmel 300	0.25 kg (4.7%)	70 %	299
Grain	Jęczmień palony	0.25 kg (4.7%)	55 %	985
Liquid Extract	ekstrakt słodowy ciemny Bruntal	0.2 kg (3.8%)	90 %	621
Grain	Biscuit Malt	0.1 kg (1.9%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	8 g	60 min	11 %
Boil	Challenger	16 g	60 min	5.8 %
Boil	Izbella	18 g	10 min	4.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safbrew S-33	Ale	Dry	11.5 g	Safbrew
Danstar Abbaye	Ale	Dry	11 g	Danstar

## Extras

Type	Name	Amount	Use for	Time
Spice	Cynamon	15 g	Boil	10 min
Spice	Imbir	8.5 g	Boil	10 min
Spice	Anyż	3 g	Boil	10 min
Spice	Goździki	2 g	Boil	10 min
Spice	Kardamon	2 g	Boil	10 min

Spice	Gałka muszkatołowa	2 g	Boil	10 min
Spice	Tonka	10 g	Secondary	4 day(s)