

# żytni stout chocolate and tonka

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **19**
- SRM **41**
- Style **Sweet Stout**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **28.4 liter(s)**
- Total mash volume **35.5 liter(s)**

## Steps

- Temp **55 C**, Time **15 min**
- Temp **68 C**, Time **90 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **28.4 liter(s)** of strike water to **59.1C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **4.6 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (38.5%)	81 %	4
Grain	Żytni	2 kg (25.6%)	85 %	8
Grain	Chocolate Malt (UK)	0.7 kg (9%)	73 %	887
Sugar	Milk Sugar (Lactose)	0.7 kg (9%)	76.1 %	0
Grain	Strzegom Karmel 600	0.5 kg (6.4%)	68 %	601
Adjunct	Briess - Yellow Corn Flakes	0.5 kg (6.4%)	75 %	2
Grain	Płatki owsiane	0.4 kg (5.1%)	60 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	20 g	60 min	11 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Slant	200 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Fining	Whirfloc	1 g	Boil	5 min
Flavor	Kakaowiec	300 g	Boil	5 min
Flavor	Wanilia	1 g	Boil	5 min