

# Stout żytni

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **40**
- SRM **17.6**
- Style **Dry Stout**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.4 liter(s)**
- Total mash volume **11.2 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **8.4 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneńsk Weyerman	1 kg (35.7%)	81 %	4
Grain	Żytni	1 kg (35.7%)	85 %	8
Grain	Strzegom Karmel 150	0.4 kg (14.3%)	75 %	150
Grain	Jęczmień palony	0.045 kg (1.6%)	55 %	985
Grain	Pszeniczny	0.32 kg (11.4%)	85 %	1
Grain	Strzegom pszenica prażona	0.04 kg (1.4%)	70 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	15 g	60 min	6.8 %
Boil	Oktawia	15 g	30 min	8.7 %
Boil	Cascade	10 g	5 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM11 Wichrowe Wzgórza	Ale	Liquid	150 ml	Fermentum Mobile
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