

# Żytnie Ciemne 13 BLG

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **27**
- SRM **12.5**
- Style **Rye IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- 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 **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.3 liter(s)**
- Total mash volume **17.1 liter(s)**

## Steps

- Temp **58 C**, Time **5 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **13.3 liter(s)** of strike water to **63.4C**
- Add grains
- Keep mash **5 min** at **58C**
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.4 kg (48%)	80 %	4
Adjunct	płatki żytnie	1.2 kg (24%)	80 %	4
Grain	Strzegom Monachijski typ I	1 kg (20%)	78 %	14
Grain	Strzegom Karmel 150	0.2 kg (4%)	75 %	150
Grain	Strzegom Karmel 300	0.15 kg (3%)	70 %	299
Grain	Strzegom Czekoladowy ciemny	0.05 kg (1%)	65 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	60 min	7.4 %
Boil	Hallertau Spalt Select	30 g	15 min	4.1 %
Boil	Hallertau Spalt Select	20 g	5 min	4.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis