

# żytnie Grodzie

- Gravity **7.8 BLG**
- ABV ---
- IBU **27**
- SRM **4.1**
- Style **Grodziskie/Graetzer**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **1 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **33.4 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **7.5 liter(s) / kg**
- Mash size **23.6 liter(s)**
- Total mash volume **26.8 liter(s)**

## Steps

- Temp **46 C**, Time **10 min**
- Temp **53 C**, Time **15 min**
- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **10 min**

## Mash step by step

- Heat up **23.6 liter(s)** of strike water to **47.7C**
- Add grains
- Keep mash **10 min** at **46C**
- Keep mash **15 min** at **53C**
- Keep mash **30 min** at **63C**
- Keep mash **10 min** at **73C**
- Sparge using **13 liter(s)** of **76C** water or to achieve **33.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Grodziski	2 kg (63.5%)	80 %	4
Grain	Karmelowy żytni Strzegom	0.05 kg (1.6%)	75 %	150
Grain	Weyermann - Smoked Malt	1.1 kg (34.9%)	81 %	6

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	15 g	60 min	7.5 %
Boil	Hallertau	15 g	30 min	7.5 %
Aroma (end of boil)	Lublin (Lubelski)	30 g	5 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM51 Grodzie Dębowe	Wheat	Liquid	30 ml	Fermentum Mobile