

# grodziskie do zmiany

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **26**
- SRM **3.4**
- Style **Grodziskie/Graetzer**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **38 C**, Time **30 min**
- Temp **52 C**, Time **15 min**
- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **40.6C**
- Add grains
- Keep mash **30 min** at **38C**
- Keep mash **15 min** at **52C**
- Keep mash **15 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (50%)	81 %	4
Grain	Grodziski pszeniczny wędzony dębem	3 kg (50%)	80 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	13.5 %
Boil	Puławski	20 g	30 min	4.3 %
Boil	Magnum	5 g	10 min	13.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min