

# gro

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- Gravity **10 BLG**
- ABV **4 %**
- IBU **21**
- SRM **5.2**
- 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 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **1 min** at **78C**
- Sparge using **21.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Grodziski pszeniczny wędzony dębem	5 kg (100%)	80 %	10

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zula	30 g	20 min	9.7 %
Aroma (end of boil)	Izabella	30 g	5 min	6.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safbrew S-33	Ale	Dry	11.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Flavor	sok z pigwy	2000 g	Secondary	21 day(s)