

## #4 Grodziskie

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- Gravity **7.6 BLG**
- ABV **2.9 %**
- IBU **23**
- SRM **2.3**
- Style **Grodziskie/Graetzer**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9 liter(s)**
- Total mash volume **12 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **9 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **78C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Grodziski pszeniczny wędzony dębem	3 kg (100%)	80 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	14.4 %
Aroma (end of boil)	Sybilla	25 g	5 min	6.2 %
Aroma (end of boil)	Lublin (Lubelski)	30 g	0 min	5.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Fermentis SafAle™ K-97	Ale	Dry	11.5 g	Fermentis