

## #41 Ciemnie grodziskie

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- Gravity **8.8 BLG**
- ABV **3.4 %**
- IBU **19**
- SRM **19.2**
- Style **Grodziskie/Graetzer**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **7.9 liter(s)**
- Total mash volume **10.1 liter(s)**

### Steps

- Temp **63 C**, Time **60 min**
- Temp **79 C**, Time **5 min**

### Mash step by step

- Heat up **7.9 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **60 min** at **63C**
- Keep mash **5 min** at **79C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Grodziski	1.5 kg (66.7%)	80 %	4
Grain	Viking Pale Ale malt	0.5 kg (22.2%)	80 %	5
Grain	Fawcett - Pale Chocolate	0.1 kg (4.4%)	71 %	600
Grain	Weyermann - Carafa I	0.1 kg (4.4%)	70 %	690
Grain	Weyermann - Carafa II	0.05 kg (2.2%)	70 %	837

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mittelfruh	30 g	60 min	3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	150 g	Safale