

## #41 Ciemnie grodziskie

- 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     |