Grodzie Ciemne

- Gravity **11.2 BLG**
- ABV **---**
- IBU **28**
- SRM **39.5**
- Style **Grodziskie**

Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **2 %**
- Size with trub loss **16.3 liter(s)**
- Boil time **75 min**
- Evaporation rate **25 %/h**
- Boil size **23.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **13.5 liter(s)**

Steps

- Temp **32 C**, Time **45 min**
- Temp **63 C**, Time **60 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **10.5 liter(s)** of strike water to **33.7C**
- Add grains
- Keep mash **45 min** at **32C**
- Keep mash **60 min** at **63C**
- Keep mash **25 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **23.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Grodziski	1.2 kg *(40%)*	80 %	4
Grain	Strzegom Wiedeński	0.5 kg *(16.7%)*	79 %	10
Grain	Briess - Smoked Malt	0.7 kg *(23.3%)*	80.5 %	10
Grain	Strzegom Czekoladowy 1200	0.1 kg *(3.3%)*	68 %	1202
Grain	Jęczmień palony	0.1 kg *(3.3%)*	55 %	985
Grain	Strzegom Barwiący	0.1 kg *(3.3%)*	68 %	1300
Grain	Strzegom Karmel 150	0.1 kg *(3.3%)*	75 %	150
Grain	Oats, Flaked	0.2 kg *(6.7%)*	80 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	15 g	30 min	10 %
Boil	Marynka	15 g	10 min	10 %

Yeasts

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Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	300 ml	fermentis

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