

## G

- Gravity **8.5 BLG**
- ABV **3.3 %**
- IBU **19**
- SRM **3.1**
- 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 **10 liter(s)**
- Total mash volume **13.3 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **73 C**, Time **20 min**

### Mash step by step

- Heat up **10 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **20 min** at **73C**
- Sparge using **18.6 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	2 kg (60.1%)	80 %	3
Grain	Wędzony bukiem Viking Malt	0.53 kg (15.9%)	82 %	10
Grain	Żytni	0.5 kg (15%)	85 %	8
Grain	Weyermann - Carapils	0.3 kg (9%)	78 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	2 g	60 min	12 %
Aroma (end of boil)	Citra	10 g	15 min	12 %
Aroma (end of boil)	Citra	10 g	10 min	12 %
Aroma (end of boil)	Citra	10 g	5 min	12 %
Aroma (end of boil)	Citra	18 g	0 min	12 %