Kozioł do kwadratu #2

- Gravity **22.7 BLG**
- ABV **10.3 %**
- IBU **27**
- SRM **11.8**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **30.8 liter(s)**

Steps

- Temp **50 C**, Time **1 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **22 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **1 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Wiedeński	4 kg *(45.5%)*	79 %	10
Grain	IREKS Pilzneński	2 kg *(22.7%)*	80.5 %	4
Grain	Monachijski	2.5 kg *(28.4%)*	80 %	16
Grain	Biscuit Malt	0.2 kg *(2.3%)*	79 %	45
Grain	Special B Castle	0.1 kg *(1.1%)*	70 %	400

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	25 g	60 min	13.5 %
Aroma (end of boil)	Lubelski Polish Hops 2018	50 g	5 min	2.6 %

Yeasts

Name	Type	Form	Amount	Laboratory
34/70	Lager	Slant	350 ml	Fermentis

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	5 g	Boil	15 min