

# Kozioł do kwadratu

- Gravity **20 BLG**
- ABV **8.8 %**
- IBU **25**
- SRM **10.6**
- Style **Doppelbock**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **25.9 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **30.8 liter(s)**

## Steps

- 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 **70.4C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Wiedeński	4.2 kg (47.7%)	79 %	10
Grain	IREKS Pilzneński	2.2 kg (25%)	80.5 %	4
Grain	Monachijski	2 kg (22.7%)	80 %	16
Grain	Słód Caramunich Typ II Weyermann	0.2 kg (2.3%)	73 %	120
Grain	Biscuit Malt	0.2 kg (2.3%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	40 min	12.9 %
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

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