

# Koźlak dubeltowy

- Gravity **20.5 BLG**
- ABV **9 %**
- IBU **23**
- SRM **13.3**
- 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 **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **29.4 liter(s)**

## Steps

- Temp **50 C**, Time **5 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **5 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Wiedeński	4 kg (47.6%)	79 %	10
Grain	IREKS Pilzneński	2 kg (23.8%)	80.5 %	4
Grain	Monachijski	2 kg (23.8%)	80 %	16
Grain	Special B Castle	0.2 kg (2.4%)	70 %	400
Grain	Carahell	0.2 kg (2.4%)	77 %	26

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	20 g	60 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	10 min