

# Lager ciemniejszy

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **40**
- SRM **12**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.2 liter(s) / kg**
- Mash size **17.8 liter(s)**
- Total mash volume **23.3 liter(s)**

## Steps

- Temp **54 C**, Time **10 min**
- Temp **66 C**, Time **65 min**
- Temp **78 C**, Time **2 min**

## Mash step by step

- Heat up **17.8 liter(s)** of strike water to **59.3C**
- Add grains
- Keep mash **10 min** at **54C**
- Keep mash **65 min** at **66C**
- Keep mash **2 min** at **78C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Minich	3.1 kg (55.9%)	80.5 %	16
Grain	Słód pszeniczny Bestmalz	0.2 kg (3.6%)	82 %	5
Grain	Cara-Pils/Dextrine	0.15 kg (2.7%)	72 %	4
Grain	BESTMALZ - Best Pilsen	2 kg (36%)	80.5 %	4
Grain	Carafa II	0.1 kg (1.8%)	70 %	1000

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Boil	Spalt	30 g	15 min	5.5 %
Boil	Spalt	20 g	5 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Dry	23 g	Mangrove Jack's