

# Ciemna Strona Lewandowskiego

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **20**
- SRM **17.7**
- Style **Munich Dunkel**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

## Mash information

- Mash efficiency **84 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **25.9 liter(s)**

## Steps

- Temp **45 C**, Time **40 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **20.1 liter(s)** of strike water to **48.6C**
- Add grains
- Keep mash **40 min** at **45C**
- Keep mash **30 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	2 kg (34.8%)	79 %	16
Grain	Strzegom Monachijski typ II	2 kg (34.8%)	79 %	24
Grain	Strzegom Pilzneński	1.2 kg (20.9%)	80 %	4
Grain	Caramunich® typ I	0.2 kg (3.5%)	73 %	80
Grain	Weyermann Caramunich 3	0.2 kg (3.5%)	76 %	150
Grain	Carafa III	0.15 kg (2.6%)	70 %	1150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	25 g	65 min	7 %
Boil	Tettnang	20 g	15 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

WLP833 - German Bock Lager Yeast	Lager	Liquid	170 ml	White Labs
----------------------------------	-------	--------	--------	------------

## Notes

- 1 ml kwasu fosforowego (do wystadzania)  
4 ml chlorku wapnia ( do gotowania)  
*Feb 9, 2019, 12:32 PM*