

# 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*