

# Ciemny lager na wylodzinach z portera

- Gravity **7.6 BLG**
- ABV **2.9 %**
- IBU **25**
- SRM **15.4**
- Style **Baltic Porter**

## Batch size

- Expected quantity of finished beer **7 liter(s)**
- Trub loss **5 %**
- Size with trub loss **7.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **9.9 liter(s)**

## Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **3.8 liter(s)**
- Total mash volume **4.8 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **3.8 liter(s)** of strike water to **56.5C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **30 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **9.9 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Minich	0.44 kg (40.9%)	80.5 %	16
Grain	BESTMALZ - Best Vienna	0.35 kg (32.6%)	80.5 %	9
Grain	Weyermann - Pilsner Malt	0.12 kg (11.2%)	81 %	5
Grain	Caraaroma	0.045 kg (4.2%)	78 %	400
Grain	Słód Caramunich Typ II Weyermann	0.072 kg (6.7%)	73 %	120
Grain	Weyermann - Carafa II	0.018 kg (1.7%)	70 %	837
Grain	Weyermann - Chocolate Wheat	0.03 kg (2.8%)	74 %	788

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	8 g	60 min	7.9 %
Aroma (end of boil)	Saaz (Czech Republic)	10 g	2 min	4.7 %