

## Ciemne CZ

- Gravity **11.9 BLG**
- ABV ---
- IBU **29**
- SRM **24.6**
- Style **Dark American Lager**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **23.1 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **11.1 liter(s)**
- Total mash volume **15.2 liter(s)**

### Steps

- Temp **54 C**, Time **20 min**
- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **11.1 liter(s)** of strike water to **60.3C**
- Add grains
- Keep mash **20 min** at **54C**
- Keep mash **30 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **23.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.2 kg (53.7%)	81 %	4
Grain	Monachijski	1.4 kg (34.1%)	80 %	16
Grain	Black (Patent) Malt	0.2 kg (4.9%)	55 %	985
Grain	Karmelowy Czerwony	0.3 kg (7.3%)	75 %	59

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	15 g	15 min	4.5 %
Boil	Premiant	25 g	60 min	8 %