

Ciemny Lager

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **24**
- SRM **17.8**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **37.3 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

Steps

- Temp **50 C**, Time **5 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **19.5 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **5 min** at **50C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **24.3 liter(s)** of **76C** water or to achieve **37.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (61.5%)	81 %	4
Grain	Strzegom Monachijski typ II	2 kg (30.8%)	79 %	22
Grain	Caraaroma	0.3 kg (4.6%)	78 %	400
Grain	Carafa II	0.2 kg (3.1%)	70 %	1100

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Premiant	35 g	60 min	8.4 %
Boil	Saaz (Czech Republic)	20 g	15 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Slant	300 ml	Fermentis

Extras

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	5 g	Boil	10 min