Ciemny Lager

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **25**
- SRM **23.5**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **28 liter(s)**
- Trub loss **5 %**
- Size with trub loss **29.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **8 %/h**
- Boil size **36.1 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **23.4 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **24.5 liter(s)** of **76C** water or to achieve **36.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg *(68.4%)*	81 %	4
Grain	Munich Malt	1 kg *(17.1%)*	80 %	15
Grain	Carafa II	0.3 kg *(5.1%)*	70 %	1100
Grain	Fawcett - Crystal	0.25 kg *(4.3%)*	70 %	160
Grain	Czekoladowy	0.2 kg *(3.4%)*	60 %	788
Grain	Melanoiden Malt	0.1 kg *(1.7%)*	80 %	70

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	14 %
Boil	Saaz (Czech Republic)	20 g	15 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager S-23	Lager	Dry	23 g	Fermentis

Extras

Type	Name	Amount	Use for	Time

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Fining	Mech irlandzki	5 g	Boil	10 min