

Ciemny Lager

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **19**
- SRM **22**
- Style **Schwarzbier**

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 **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **69 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **16.6 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **69C**
- Keep mash **1 min** at **78C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------|----------------|-------|------|
| Grain | Pilzneński | 2.2 kg (46.3%) | 81 % | 4 |
| Grain | Strzegom Wiedeński | 2.2 kg (46.3%) | 79 % | 10 |
| Grain | Carafa II | 0.25 kg (5.3%) | 70 % | 1100 |
| Grain | Fawcett - Pale Chocolate | 0.1 kg (2.1%) | 71 % | 600 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil | Tradition | 30 g | 60 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Kveik Lutra | Ale | Slant | 300 ml | --- |