

## Czeskie ciemne

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **22**
- SRM **31.6**
- 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 liter(s) / kg**
- Mash size **14.4 liter(s)**
- Total mash volume **19.2 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

### Mash step by step

- Heat up **14.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ I	4 kg (83.3%)	79 %	16
Grain	Strzegom Czekoladowy jasny	0.3 kg (6.3%)	68 %	400
Grain	Strzegom Karmel 600	0.3 kg (6.3%)	68 %	601
Grain	Strzegom Barwiący	0.2 kg (4.2%)	68 %	1300

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	40 g	60 min	4 %
Boil	Saaz (Czech Republic)	10 g	30 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	500 ml	Fermentum Mobile