

Czarny pils

- Gravity **11.9 BLG**
- ABV ---
- IBU **44**
- SRM **11.6**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **2 %**
- Size with trub loss **25.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.9 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **20.3 liter(s)**

Steps

- Temp **55 C**, Time **15 min**
- Temp **65 C**, Time **60 min**
- Temp **73 C**, Time **10 min**

Mash step by step

- Heat up **15.2 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **73C**
- Sparge using **18.8 liter(s)** of **76C** water or to achieve **28.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Barwiący	0.08 kg (1.6%)	68 %	1300
Grain	Strzegom Wiedeński	5 kg (98.4%)	79 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	40 g	60 min	9.4 %
Boil	Saaz (Czech Republic)	25 g	15 min	3.05 %
Boil	Saaz (Czech Republic)	25 g	5 min	3.05 %