

# Czarne złoto

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **32**
- SRM **19.7**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **33.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **21.3 liter(s)** of **76C** water or to achieve **33.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (83.3%)	80 %	4
Grain	Caraaroma	0.3 kg (5%)	78 %	400
Grain	Jęczmień palony	0.2 kg (3.3%)	55 %	985
Grain	Carafa	0.1 kg (1.7%)	70 %	664
Grain	Barley, Flaked	0.4 kg (6.7%)	70 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Aurora	35 g	55 min	8.5 %
Boil	Fuggles	45 g	10 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	5 g	Safale