

# Czarna godzina

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- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **56**
- SRM **35.2**
- Style **Foreign Extra Stout**

## 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 **22.5 liter(s)**
- Total mash volume **30 liter(s)**

## Steps

- Temp **65 C**, Time **0 min**
- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **22.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **0 min** at **65C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4.5 kg (60%)	79 %	6
Grain	Strzegom Monachijski typ II	1 kg (13.3%)	79 %	22
Grain	Strzegom pszenica prażona	0.25 kg (3.3%)	70 %	1000
Grain	Jęczmień palony	0.25 kg (3.3%)	55 %	985
Grain	Strzegom Pszeniczny	1 kg (13.3%)	81 %	6
Grain	Strzegom Karmel 300	0.25 kg (3.3%)	70 %	299
Grain	Strzegom Czekoladowy 400	0.25 kg (3.3%)	68 %	400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	30 g	60 min	9.7 %
Boil	Equinox	10 g	60 min	13.1 %
Aroma (end of boil)	Equinox	10 g	12 min	13.1 %

Aroma (end of boil)	Centennial	20 g	10 min	9.7 %
Aroma (end of boil)	Centennial	10 g	7 min	9.7 %
Aroma (end of boil)	Equinox	20 g	5 min	13.1 %
Dry Hop	Centennial	20 g	7 day(s)	9.7 %
Dry Hop	Centennial	20 g	5 day(s)	9.7 %
Dry Hop	Equinox	10 g	3 day(s)	13.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	22 g	Danstar