

# BLACK SABBATH

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- Gravity **15.9 BLG**
- ABV ---
- IBU **35**
- SRM **40.5**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.8 liter(s)**
- Total mash volume **25 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**

## Mash step by step

- Heat up **18.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (80%)	80 %	4
Grain	Caraaroma	0.5 kg (8%)	78 %	400
Grain	Weyermann - Carafa I	0.1 kg (1.6%)	70 %	690
Grain	Jęczmień palony	0.25 kg (4%)	55 %	985
Grain	Płatki jęczmienne	0.4 kg (6.4%)	85 %	3

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Aurora	35 g	55 min	8.5 %
Aroma (end of boil)	Styrian Golding	45 g	10 min	3.6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11 g	Safale