

Czorny murzin

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **46**
- SRM **36.1**
- Style **Schwarzbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **74 C**, Time **15 min**

Mash step by step

- Heat up **21 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **74C**
- Sparge using **11.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Biscuit Malt	2 kg (28.6%)	79 %	45
Grain	Briess - Chocolate Malt	1 kg (14.3%)	60 %	690
Grain	CastleMalting diastatic	2 kg (28.6%)	80 %	3
Grain	Strzegom Pilzneński	1 kg (14.3%)	80 %	4
Sugar	Milk Sugar (Lactose)	1 kg (14.3%)	76 %	0

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	50 g	60 min	7 %
Boil	Perle	30 g	30 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	200 ml	Fermentis

Extras

Type	Name	Amount	Use for	Time
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Flavor	Płatki z beczki po łiski	50 g	Secondary	21 day(s)
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