

# Ris resztkowy

- Gravity **24.9 BLG**
- ABV **11.6 %**
- IBU **118**
- SRM **47.7**
- Style **Russian Imperial Stout**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.1 liter(s) / kg**
- Mash size **21.9 liter(s)**
- Total mash volume **32.3 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **21.9 liter(s)** of strike water to **76.9C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **28.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale	5 kg (44.6%)	80 %	7
Grain	Pszeniczny	1.1 kg (9.8%)	85 %	4
Grain	Żytni	1.14 kg (10.2%)	85 %	8
Grain	Strzegom Czekoladowy jasny	0.09 kg (0.8%)	68 %	400
Grain	Strzegom pszenica prażona	0.5 kg (4.5%)	70 %	1000
Grain	Płatki owsiane	1.2 kg (10.7%)	85 %	3
Grain	Strzegom Czekoladowy jasny	0.34 kg (3%)	68 %	400
Grain	Jęczmień palony	0.17 kg (1.5%)	55 %	985
Grain	słód specjal B	0.26 kg (2.3%)	80 %	290
Sugar	Candi Sugar, Dark	0.5 kg (4.5%)	78.3 %	200
Grain	Carafa 1	0.3 kg (2.7%)	70 %	664
Grain	Briess - Carapils Malt	0.32 kg (2.9%)	74 %	3
Sugar	Milk Sugar (Lactose)	0.3 kg (2.7%)	76.1 %	0

## Hops

Use for	Name	Amount	Time	Alpha acid
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Boil	Columbus/Tomahawk/Zeus	50 g	60 min	15.5 %
Boil	Magnum	50 g	60 min	13.5 %
Boil	Marynka	50 g	60 min	10 %
Boil	hallertau hersbrucker	20 g	5 min	2.3 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US 05	Ale	Slant	300 ml	---

### Extras

Type	Name	Amount	Use for	Time
Flavor	płatki dębowe amer. (mocno opiekane)	50 g	Secondary	7 day(s)