

# zima

- Gravity **21.8 BLG**
- ABV **9.8 %**
- IBU **42**
- SRM **37.5**
- Style **Baltic Porter**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **26.1 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **39.4 liter(s)**
- Total mash volume **49.3 liter(s)**

## Steps

- Temp **67 C**, Time **120 min**

## Mash step by step

- Heat up **39.4 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **120 min** at **67C**
- Sparge using **-3.5 liter(s)** of **76C** water or to achieve **26.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3 kg (30.5%)	80 %	4
Grain	Strzegom Wiedeński	3 kg (30.5%)	79 %	10
Grain	Monachijski	2 kg (20.3%)	80 %	16
Grain	Karmelowy Jasny 30EBC	0.65 kg (6.6%)	75 %	30
Grain	Strzegom Karmel 300	0.65 kg (6.6%)	70 %	299
Grain	Carafa III	0.2 kg (2%)	70 %	1034
Grain	Strzegom Czekoladowy jasny	0.15 kg (1.5%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.2 kg (2%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	15.5 %
Boil	Amarillo	25 g	15 min	9.5 %
Aroma (end of boil)	Amarillo	25 g	5 min	9.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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FM53 Voss kveik	Ale	Liquid	236 ml	FM
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