

## zacierana zima 2019

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- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **39**
- SRM **9.4**
- Style **American Pale Ale**

### 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 **3.15 liter(s) / kg**
- Mash size **17.3 liter(s)**
- Total mash volume **22.8 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **0 min**
- Temp **75 C**, Time **0 min**

### Mash step by step

- Heat up **17.3 liter(s)** of strike water to **75.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **0 min** at **72C**
- Keep mash **0 min** at **75C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (90.9%)	80 %	5
Grain	Strzegom Karmel 150	0.5 kg (9.1%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mosaic	30 g	60 min	10 %
Aroma (end of boil)	Cascade	30 g	10 min	6 %
Dry Hop	Cascade	20 g	5 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis