

## na zime 1?

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **49**
- SRM **8.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **28.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12.5 liter(s)**
- Total mash volume **17.5 liter(s)**

### Steps

- Temp **72 C**, Time **50 min**

### Mash step by step

- Heat up **12.5 liter(s)** of strike water to **82.4C**
- Add grains
- Keep mash **50 min** at **72C**
- Sparge using **21.3 liter(s)** of **76C** water or to achieve **28.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pilsen Malt	4 kg (80%)	80.5 %	2
Grain	Simpsons - Crystal Rye	0.5 kg (10%)	73 %	177
Grain	Oats, Flaked	0.5 kg (10%)	80 %	2

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	35 g	15 min	13.7 %
Whirlpool	Citra	55 g	20 min	13.7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
DIPA	Ale	Liquid	100 ml	omega