

ZACIERAPA

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **45**
- SRM **4.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **30.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **30 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **20 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **30 min** at **76C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **30.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	5 kg (90.9%)	80 %	7
Grain	Pszeniczny	0.5 kg (9.1%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	10 g	60 min	13.5 %
Boil	CITRA	15 g	30 min	14.1 %
Boil	CITRA	15 g	15 min	14.1 %
Boil	Cascade	15 g	15 min	6 %
Boil	Citra	10 g	5 min	14.1 %
Boil	Cascade	10 g	5 min	6 %
Boil	Cascade	10 g	0 min	6 %
Whirlpool	Citra	10 g	-3 min	14.1 %
Dry Hop	CITRA	50 g	4 day(s)	14.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
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us-05	Ale	Slant	100 ml	ROBOT
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