

ZERO DO 2% APA #3 No. 1

- Gravity **4.8 BLG**
- ABV **1.8 %**
- IBU **39**
- SRM **5.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **3 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **4.9 liter(s)**
- Total mash volume **6.5 liter(s)**

Steps

- Temp **72 C**, Time **50 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **4.9 liter(s)** of strike water to **80.6C**
- Add grains
- Keep mash **50 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.5 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale GOLDEN PROMISE	0.8 kg (49.4%)	80 %	6
Grain	Strzegom Karmel 150	0.1 kg (6.2%)	75 %	150
Grain	Płatki owsiane	0.2 kg (12.3%)	85 %	3
Grain	Briess - Pilsen Malt	0.5 kg (30.9%)	80.5 %	2
Grain	Strzegom Czekoladowy ciemny	0.02 kg (1.2%)	68 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Rakau (NZ)	20 g	50 min	10 %
Boil	Rakau (NZ)	30 g	5 min	10 %
Dry Hop	Motueka	20 g	4 day(s)	7 %
Dry Hop	Kohatu	20 g	4 day(s)	7.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - American Ale	Ale	Liquid	125 ml	Wyeast Labs

Extras

Type	Name	Amount	Use for	Time
Other	Łuska ryżowa	300 g	Mash	10 min
Flavor	skórka gorzkiej pomarańczy	50 g	Boil	10 min
Other	laktoza	50 g	Boil	15 min

Notes

- 4,8 brix
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