

APA

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **31**
- SRM **3.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **7 %**
- Size with trub loss **25.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **17.4 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **28.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Malting - Pilsneński 6-rzędowy	4 kg (69%)	80 %	5
Grain	Płatki pszeniczne	0.9 kg (15.5%)	85 %	3
Grain	Płatki owsiane	0.9 kg (15.5%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	30 g	60 min	11 %
Whirlpool	Galaxy	20 g	0 min	15 %
Whirlpool	Azacca	30 g	0 min	14 %
Dry Hop	Galaxy	80 g	2 day(s)	15 %
Dry Hop	Azacca	70 g	2 day(s)	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Windsor Ale	Ale	Dry	11.5 g	Danstar

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Flavor	Zest ze słodkiej pomarańczy	20 g	Boil	10 min
Water Agent	witamina c	5 g	Bottling	---
Water Agent	chlorek wapnia	5 g	Mash	60 min
Water Agent	kwask mlekowy	5.4 g	Mash	0 min