

APA z pędami sosny

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **31**
- SRM **3.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **28.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **36 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.4 liter(s)**
- Total mash volume **21.1 liter(s)**

Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **16.4 liter(s)** of strike water to **69.2C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **24.3 liter(s)** of **76C** water or to achieve **36 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale ale Ireks	4.5 kg (78.9%)	80 %	5
Adjunct	Płatki pszeniczne	1 kg (17.5%)	85 %	3
Grain	Karmelowy Jasny 30EBC	0.2 kg (3.5%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	25 g	50 min	13 %
Boil	Equinox	15 g	10 min	13.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
US -05	Ale	Slant	150 ml	---

Extras

Type	Name	Amount	Use for	Time
Herb	Pędy sosny	175 g	Boil	15 min