MICRO IPA 4

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **23**
- SRM **3.3**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.3 liter(s)**
- Boil time **40 min**
- Evaporation rate **15 %/h**
- Boil size **28.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.3 liter(s)**
- Total mash volume **16.4 liter(s)**

Steps

- Temp **52 C**, Time **5 min**
- Temp **67 C**, Time **15 min**
- Temp **72 C**, Time **50 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **12.3 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **15 min** at **67C**
- Keep mash **50 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **19.9 liter(s)** of **76C** water or to achieve **28.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Barke Pilsner	1.7 kg *(41.5%)*	81 %	5
Grain	Weyermann - Pszeniczny	1.7 kg *(41.5%)*	80 %	5
Grain	Płatki owsiane	0.5 kg *(12.2%)*	70 %	3
Grain	Weyermann - Żytni	0.2 kg *(4.9%)*	80 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Książęcy (Polish Hops)	10 g	20 min	7 %
Whirlpool	Książęcy (Polish Hops)	70 g	10 min	7 %
80℃				
Whirlpool	Azacca (USA)	40 g	10 min	10.6 %
80℃				
Dry Hop	Książęcy (Polish Hops)	70 g	3 day(s)	7 %

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

3dni+3dni CC				
Dry Hop	Azacca (USA)	60 g	3 day(s)	10.6 %
3dni+3dni CC				

Yeasts

Name	Type	Form	Amount	Laboratory
Lallemand-LalBrew Windsor Ale	Ale	Dry	11 g	---
FERMENTACJA 20-22°C- SAMO DO 12 PSI				

Extras

Type	Name	Amount	Use for	Time
Other	łuska ryżowa	150 g	Mash	10 min
Flavor	Maltodekstryna	150 g	Boil	10 min
Flavor	trawa cytrynowa	10 g	Boil	10 min
Water Agent	witamina C	3 g	Bottling	---

Notes

- Woda RO modyfikowana do wartości w PPM
  Ca-100
  Mg-5
  Na-15
  Cl-175
  S04-60
  HCO3-0
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