APA vXX #XX

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **37**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **16.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.7 liter(s)**
- Boil time **85 min**
- Evaporation rate **27 %/h**
- Boil size **24.9 liter(s)**

Mash information

- Mash efficiency **82.3 %**
- Liquor-to-grist ratio **3.92 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18.9 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **13.7 liter(s)** of **76C** water or to achieve **24.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński - viking	0.3 kg *(7.8%)*	81 %	4
Grain	Pale ale - viking	2.9 kg *(75.6%)*	80 %	5.5
Grain	pszeniczny - bestmalz	0.3 kg *(7.8%)*	83 %	5
Grain	wiedeński - viking	0.086 kg *(2.2%)*	79 %	8.5
Grain	karmelowy 30 - viking	0.25 kg *(6.5%)*	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	14 g	60 min	14.7 %
Aroma (end of boil)	Oktawia	30 g	5 min	7.8 %
Aroma (end of boil)	EXP 2/20	30 g	1 min	7.5 %
Aroma (end of boil)	Książęcy	40 g	1 min	7 %
Dry Hop	EXP 2/20	20 g	2 day(s)	7.5 %
Dry Hop	Książęcy	40 g	2 day(s)	7 %
Dry Hop	Izabela	30 g	2 day(s)	5.1 %

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

Yeasts

Name	Type	Form	Amount	Laboratory
WLP090 - San Diego Super Yeast	Ale	Slant	150 ml	White Labs

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2.5 g	Mash	---
Water Agent	kwas mlekowy 80% [ml]	4.52 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Water Agent	epsom	0.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	10 min
Water Agent	kwas askorbinowy	3 g	Bottling	---