Próba w Ciemno

- Gravity **17.1 BLG**
- ABV **7.3 %**
- IBU **69**
- SRM **31.8**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **7 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	6 kg *(81.1%)*	80 %	4
Grain	Strzegom Carmel Pale	0.5 kg *(6.8%)*	75 %	8
Grain	Carafa III specjal	0.25 kg *(3.4%)*	70 %	1350
Zalane na kilka godzin zimną wodą do wyciagnięcia ekstraktu.				
Grain	WeWyermann - Carafa Specjal II	0.25 kg *(3.4%)*	70 %	1150
Sugar	cukier	0.4 kg *(5.4%)*	98 %	1
dodane 10 min przed końcem gotowania.				

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	50 g	60 min	15.5 %
Whirlpool	Waimea	25 g	0 min	17 %
30min 80*C				
Whirlpool	Denali	25 g	0 min	14 %
30min 80*C				
Whirlpool	Chinook	25 g	0 min	13 %

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

30min 80*C				
Whirlpool	Apollo	25 g	0 min	17 %
30min 80*C				
Dry Hop	Waimea	25 g	5 day(s)	17 %
Dry Hop	Denali	25 g	5 day(s)	14 %
Dry Hop	Chinook	25 g	5 day(s)	13 %
Dry Hop	Apollo	25 g	5 day(s)	17 %
Dry Hop	Pacific Jade	40 g	5 day(s)	13 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	---

Extras

Type	Name	Amount	Use for	Time
Fining	whirlfloc t	5 g	Boil	10 min
Other	cukier	400 g	Boil	10 min
Water Agent	Witamina C	2 g	Secondary	5 day(s)
dodatek razem z chmielem				
Water Agent	gips piwowarski	4 g	Mash	0 min