

Test Report

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Date of receipt of the sample: January 18th, 2019
Start date of the analysis: January 18th, 2019
Report date: January 23rd, 2019

Filtration tests with Crystolite (Watch Water) and highly-reputed commercial Zeolite materials "A" & "B".

1. Equipment and filter material

- Test column with an overall height of 70cm
- Turbidity meter HACH 2100P
- Crystolite (Watch Water)
- Zeolite "A"
- Zeolite "B"

2. Test development and turbidity analysis

20 liters of water were prepared with NOMINAL 5-80 MICRON ARIZONA TEST DUST, until obtaining a turbidity of approximately 100 NTU.

The filtration tests with CRYSTOLITE were carried out, placing 580 ml of CRYSTOLITE in a column with a total height of 70 cm, resulting in a media bed depth of 40 cm. Then, the column was connected to a hose and backwashed until the turbidity of the output water was equal to or less than the input water. Afterwards, 4 liters of the prepared sample with 108.2 turbidity were filtered. While the first liter of filtered water was disposed, the remaining 3 liters were passed 5 times through the CRYSTOLITE column with a TCCV of 3 minutes and the turbidity was measured and documented after each step.

TURBIDITY OF UNFILTERED WATER = 108.2 NTU

Test results with CRYSTOLITE column

	Turbidity
1. Pass	3.33 NTU
2. Pass	2.21 NTU
3. Pass	1.67 NTU
4. Pass	1.23 NTU
5. Pass	1.07 NTU

The test was repeated with the same procedure with a Zeolite "A" column

The results were:

	Turbidity
1. Pass	8.85 NTU
2. Pass	8.68 NTU
3. Pass	6.13 NTU
4. Pass	6.10 NTU
5. Pass	7.67 NTU

The test was repeated with the same procedure with Zeolite “B” column

The results were:

	Turbidity
1. Pass	6.49 NTU
2. Pass	5.12 NTU
3. Pass	4.69 NTU
4. Pass	3.54 NTU
5. Pass	3.49 NTU

Table 1: Comparison Table

	CRYSTOLITE (Watch Water)	Zeolite “A”	Zeolite “B”
Turbidity after 1. Filtration pass	3.33 NTU	8.85 NTU	6.49 NTU
Turbidity after 2. Filtration pass	2.21 NTU	8.68 NTU	5.12 NTU
Turbidity after 3. Filtration pass	1.67 NTU	6.13 NTU	4.69 NTU
Turbidity after 4. Filtration pass	1.23 NTU	6.10 NTU	3.54 NTU
Turbidity after 5. Filtration pass	1.07 NTU	7.67 NTU	3.49 NTU

3. Conclusion

According to the data obtained above, with the tested highly-reputed Zeolite materials of our competitors, it would be necessary to pass 5 times through the filtration process in order to achieve a result close to turbidity obtained with CRYSTOLITE in only one simple filtration step.

4. Reference

Reference can be found in the following original document from (2019) Grupo Comercializador Hidroaqua Guadalajara, Mexico.