AQUACHEM INC.

Wastewater Treatment Made Simple®

TECH NEWS

FOAM MANUFACTURER, PENNSYLVANIA

THE CHALLENGE

A bedding manufacturer in the Northeast generates about 40,000 gallons of process water from its molded foam production plant. The manufacturing process utilizes several chemicals such as SBR polymer, natural latex, styrene, soaps, zinc –containing accelerators, vulcanizing agents, and ammonia, to name just a few. Concentrations of fluoride in process waste water ranged from 1000 to 2200 ppm and that of zinc from 300 to 1200 ppm. Discharge requirements are 8.0 ppm for fluoride and 2.0 ppm for zinc.

The facility was experiencing frequent noncompliance with respect to fluoride, zinc and treated water was always turbid due the presence of latex particles. A new chemistry and modification of treatment setup was needed to consistently meet discharge requirements as shown in table 1.

THE SOLUTION

In the AQUASIL® treatment, a 2-product system was employed where the products were added in sequence to the waste stream, followed by a pH adjustment. The stream flows directly to the clarifier where solids settle and overflow goes out to the sewer. This treatment generates very good flock, clear effluent and consistently meets local discharge requirements.

Table 1.

Parameter	*Discharge Limits (mg/L)*	*Before (mg/L)*	*After (mg/L)*
Total Zinc	2.00	371.8	1.18
Fluoride	8.00	1058	4.8
Suspended solids		352	24
BOD	1250	876	400

AQUASIL® treatment, in almost all cases, is a one-product system. In this case, due to the high levels of fluoride, zinc and presence of latex particle, it required two products, added in sequence. This protocol provided a simple treatment that generated clear effluent and met discharge requirements.

The AQUASIL® treatment eliminated the need of all liquid chemicals, the DAF and sand filter.

Great Chemistry At Work™

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