

P-GDT vs Hanging-Bag Tests

The benefits of pressurized testing vs. hanging-bag testing in evaluating chemically conditioned slurry or sludge Geotube® dewatering projects

The application of Geotube® engineered textiles for water-solids separation has rapidly expanded to various types of mineral slurry and sludge (non-mineral applications).

Testing a Geotube® dewatering application via a hanging-bag test was suitable for slurry or sludge that dewatered readily without chemical conditioning. **Hanging-bag tests are not suitable for projects requiring a chemical conditioning program to assist in the removal of colloidal particles.**

Chemical-conditioning processes – coagulation (the destabilization of colloids by neutralizing the forces that keep them apart) and / or flocculation (the action of polymers to form bridges between the flocs, creating agglomeration, or small spheres) – involve complex physical and chemical variables that cannot be measured by hanging-bag tests.



The hanging-bag test method did not consider mechanical shear of the flocculated particles, which results from pumping and pressure within a Geotube® container. This resulted in full-scale application variability of solids-mass balance projections, polymer dose rates and filtrate solids capture rates, and significant variations in the performance of polymers and Geotube® containers alike.

P-GDT (Pressure-Geotube® Dewatering Test) is a better test method for applications requiring chemical conditioning. It simulates the physical forces exerted on flocculated particles during full-scale dewatering applications. P-GDT simulates the shear to chemical conditioning resulting from mixing, line pressure, pump shear and colloidal particle retention efficiency of the Geotube® container.

P-GDT testing establishes controlled variables – such steady-state feed solids, volume of slurry, inline mixing shear control and chemical conditioning added at accurate dosage rates. Those variables are successfully maintained in full-scale applications by the SmartFeed™ chemical conditioning system.

Engineers and contractors using P-GDT testing with the SmartFeed™ system find this seamless transition critical to successful Geotube® applications.

For more information, visit <http://www.smartfeedsystem.com>.

SmartFeed™ is a patent-pending technology of

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