

Synthetic Gypsum in the Innovation Center



PROCESS

Synthetic gypsum is frequently tested in the FEECO Innovation Center for a variety of reasons. This might include to enhance the characteristics or performance of an existing product, improve upon or troubleshoot a process currently in use, or even to test the feasibility or develop a process around a new product or idea.

Our process experts can work with you to develop a customized testing program around the answers you're looking for. Depending on your needs, we offer testing services in four categories:

1. Feasibility/Proof of Concept - An initial, non-witnessed batch testing phase in which the possibility of creating a product is explored.

2. Proof of Product - A more in-depth batch testing phase in which more time is spent determining whether a product can be made to desired specifications.

3. Proof of Process - A continuous testing phase that aims to establish the equipment setup and parameters required for continuous production of your specific material.

4. Process/Product Optimization - An in-depth study to optimize your specific material's characteristics and/or production parameters in an industrial setting.

Processes Commonly Tested:

- Pelletizing

- Drying

Equipment Commonly Tested:

- Pin Mixer
- Paddle Mixer
- Disc Pelletizer
- Rotary Dryer
- Conveyor
- Screen
- Bucket Elevator

Most often, customers are looking to create a durable pellet capable of breaking down quickly in standard field conditions, while also counteracting dust and improving product handling. To achieve this, various binders are also used during the agglomeration tests, to create a pellet that is durable enough to withstand subsequent processing and handling.

Synthetic gypsum samples vary, especially in percentage of moisture and the ease of pelletizing. Thus, it's important to note that because of these variances, FEECO process experts perform several tests, some of which require lengthier processing time, drying prior to agglomeration, and/or additional binder, if required, depending on the unique synthetic gypsum sample.

THE INNOVATION CENTER ADVANTAGE

Testing in the FEECO Innovation Center provides an invaluable opportunity to test in a controlled environment, allowing you to gain a familiarity with your material, while reducing the chance for unforeseen problems after process scale-up. Some of the many advantages to testing in the FEECO Innovation Center include:

Material Experience:

FEECO has been a pioneer in material processing since the 1950s, and has extensive knowledge around hundreds of materials and processing methods.

Customers gain a valuable familiarity with their material and its unique characteristics through testing in the Innovation Center.

Complete Process Knowledge:

FEECO is familiar with each aspect of a process, from agglomeration and kiln processing, to drying and cooling, allowing us to look at how the process will function as a whole, instead of each individual portion.

Process Scale-up:

Once the process configuration has been defined, FEECO can aid in process scale-up, as well as manufacturing the equipment needed to get the job done.

Automation & Data Collection:

FEECO is a Rockwell Automation partner, providing integrated process control solutions for our customers, both as a service in the Innovation Center, and as part of a system purchase. This provides customers with state-of-the-art data collection and reporting capabilities.

A variety of data points can be monitored, trended, and adjusted in real time, all from a single interface or mobile device.

Historical data is also available for returning customers, allowing you to pick up exactly where you left off.

Virtual Lab:

FEECO offers a unique Virtual Lab: a secure portal customers can log into and view their material being tested in real time, without having to come to the FEECO facility.

Commonly Targeted Material Characteristics:

- Crush Strength/Hardness
- Abrasion/Attrition
- Material Composition
- Bulk Density
- Flowability
- Moisture Content
- Green/Wet Strength
- Sieve Analysis
- Solubility

SCHEDULE A TEST

To discuss your testing needs with one of our process engineers and schedule a test, contact us today at: [FEECO.com/contact](https://www.feeeco.com/contact)