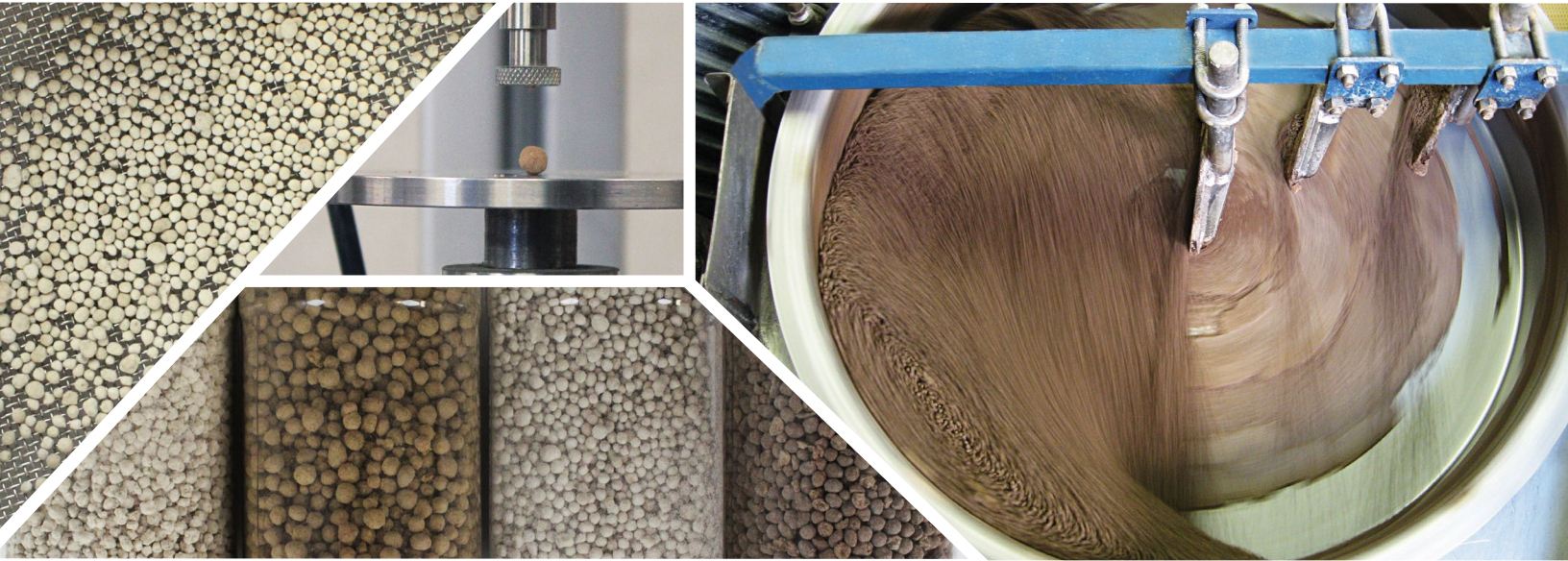


Limestone in the Innovation Center



PROCESS

Limestone materials are frequently tested in the FEECO Innovation Center for a variety of reasons. This might include to test the feasibility of a new product or idea, enhance the characteristics or performance of an existing product, improve upon or troubleshoot a process, or even develop a new process.

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:

- Limestone Pelletizing
- Limestone Drying

Equipment Commonly Tested:

- Disc Pelletizer
- Pin Mixer
- Rotary Dryer
- Rotary Cooler
- Conveyor
- Bucket Elevator
- Hammer Mill
- Screen
- Pumping System (to pump binder into a disc pelletizer or pin mixer)

A Note on Binder Selection: Calcium-based and ammonium-based lignins are commonly used when pelletizing limestone, because of their ability to create a desired pellet strength and readily break down in the field. Their economical and nutrient differences are discussed prior to testing, in addition to other binder options.

Commonly Tested Limestone Materials:

- Dolomitic Limestone
- Calcitic Limestone
- Chalk

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 where customers can 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)