



BULK MATERIAL TESTING FOR PNEUMATIC CONVEYING

The FLSmidth Cement Pneumatic Transport Test Laboratory (PT Test Lab) in Pennsylvania, USA, serves the global dry bulk handling market with unique facilities and capabilities that empower you with the information you need to succeed with your materials handling projects.

KEY BENEFITS

- Supports optimised process design
- Enables data-driven troubleshooting
- Provides factual basis for process guarantees

The PT Test Lab is designed to help you understand material behaviour during pneumatic handling. Customers can come to us and request a material test from the list below or ask for recommendations on which tests might help if they are experiencing specific problems. We then conduct our analysis and provide a report that can be used for troubleshooting, if you are having problems with a specific operation, or process design, if you are introducing a new materials handling operation.

Our analysis will cover things like how the material flows, what it takes to keep it moving, how it responds to changes in the environment, etc. We also evaluate the impact the material will have on your equipment – i.e. where potential wear can occur, what kind of wear is it and how you can prevent or abate it. All of this will contribute to better process design and, in the case of existing installations, could help you adjust operating parameters or improve wear protection to eliminate bottlenecks in your process.



How we use the PT Test Lab

Our lab is open for customers to request – and even observe – materials tests. But it's also used by FLSmidth Cement for new product development.



The latest generation V-Series Feeder was designed here, as was the FK N Pump, and ATEX certification testing was conducted in the lab for both products, too. Every upgrade we design for our pneumatic transport equipment is rooted in testing conducted at this laboratory.

Across a footprint of about 10 000 ft² (930 m²), we test our equipment with traditional materials such as coal and cement alongside things like clay that are increasingly used as supplementary cementitious materials.

Material tests offered by the PT Test Lab

Physical Tests

- Bulk density
- Angles of rupture
- Screening
- Moisture
- Laser sizing
- Spec gravity
- Fluidization & SG
- Permeability
- Chem-com oxides
- Blaine
- Packset

Process Tests

- Airveyor™ - HP60 Rotary valve
- AirMerge™ blender
- Column blender
- Fuller-Kinyon® Pump
- Airslide® gravity conveyor
- Airslide RR car
- Pick-up velocity
- Min Convey velocity

Special Tests

- Degradation / Segregation
- Rate turndown

Our R&D center in Dania, Denmark complements the capabilities of our PT Test lab. At Dania, thousands of tons of raw materials are tested and analyzed each year to predict their behaviors when processed in applications such as in cement production. Our capabilities include R3 testing, XRF/XRD thermal analysis, calcining and emissions analysis, and pilot scale pyroprocessing.

