



ADM's ENVIROStrip® TEST CENTER

At Archer Daniels Midland, top priority is given to advancing process and application knowledge of ADM products. Recognizing that ENVIROStrip®, ENVIROStrip® XL and eStrip® products should be developed and tested in an environment that replicates the customer's stripping process, ADM invested over \$1 million dollars in a dedicated facility. The initial goal of this undertaking was to establish equipment standards for the starch media and copolymers product. Today we can look back and see that through ADM's leadership and the efforts of equipment vendors, equipment design and standards for ENVIROStrip® and ENVIROStrip® XL starch media have improved remarkably. By working with equipment suppliers in the industry, ADM has encouraged the development of better application technology for starch media. Commercial examples of new technology are flat nozzles, manual closed-cycle systems, and automated systems for stripping parts such as composites.

As the ENVIROStrip® Test Center enters its sixth year of operation, the facility continues to fill several important roles:

1. Support to application development and validation efforts of the ENVIROStrip® process at a production level. Customers acquire a better understanding of the process before implementing ENVIROStrip® products into their own production environment.
2. Support to process qualification programs, meeting the needs of aircraft manufacturers in their effort to establish ENVIROStrip® approvals. Past programs at the Test Center include Bombardier, Cessna, NASA, and Rockwell.
3. Support to ADM's new product R&D efforts and characterization of commercial products such as the new ENVIROStrip® XL corn hybrid polymer and also the new classified as Type VII Mil spec. eStrip® starch-g-acrylic manufactured to meet USAF MIL-P-85891 requirement.

TEST CENTER SPECIFICATIONS

BLAST ROOM

The Test Center has the following equipment available for customer application development of ENVIROStrip® products:

1. An enclosed blast room (10' x 15') equipped with air ventilation and pneumatic recovery of media. The room has several windows allowing visitors to witness the process.
2. A media recovery system that classifies recovered media into different mesh sizes and automatically replenishes with new media.
3. Double pressure pot systems designed to support continuous blasting without interruption for manual or automated stripping applications.
4. Media flow delivery systems to accurately control media flow. Good flow control is particularly important for composite stripping applications.
5. An air pressure control system which controls and measures nozzle pressure continuously.
6. A compressed air system equipped with two compressors and a refrigerant air dryer.
7. A pneumatic media recovery system designed to support vacuum-return applications for hand-held vacuum return heads.
8. A PLC controlled system with on-screen computer monitoring, system control, data acquisition, and data reporting capability.

The blast room system is designed to provide the following controls over the starch media stripping process:

- ✓ Selection of a uniform media size to be delivered to the nozzle.
- ✓ Accurate media flow measurement and control at the nozzle.
- ✓ Accurate nozzle pressure measurement and control.
- ✓ Use of high quality compressed air (with dew point measurement).

HAND CABINET

We have two hand cabinets available for small component work and test coupons. One cabinet is equipped with several features to control testing of abrasive products. For example, a single-axis table is used to control nozzle travel speed for automated strip tests. The other cabinet is a large manual hand cabinet with two hand-stripping stations and a moving rail system for positioning parts.



TEST LABORATORY

A test laboratory is also available for materials evaluation and characterization. Equipment includes a Rotap for mesh analysis, Almen Test Gage, surface profilometer, microscope and coating thickness gauge.



For further information regarding application development, please feel free to contact ADM. Contact information is provided on this CD.