

Laboratory Test Capabilities

Laboratory testing is key for selecting the right materials and adhesives.





Fabrico's video measuring system for part dimension verification.

In many cases, design engineers select the materials they want to use at the start of the design process and treat the selection of adhesives as an afterthought. This can lead to a design where the adhesive is constrained by the materials. Proper material and adhesive testing and selection for engineering applications can be the difference between project success and failure. Factors about the adhesive chemistry, substrate chemistry, long term environmental conditions, and the long-term stresses on the bond, can affect the durability of the bond over its planned lifetime.

Initial considerations for the design engineer should include:

- Whether or not the application requires an adhesive
- The projected lifetime of the bond and the acceptable time-to-failure
- The physical loads on the bond
- The environmental conditions during operation
- The possibility of adhesive failure
- The assembly requirements for the project

As an experienced converter and materials and adhesives expert, Fabrico helps design engineers to identify and use the best combination of materials and adhesives for an application. To ensure that the right choices are made, Fabrico has extensive laboratory testing capabilities.

Testing Capabilities Ensure Material and Adhesive Performance

With a fully equipped test laboratory, Fabrico ensures that customer materials meet designed-in specifications before they move to the factory floor, often eliminating the need to test materials at the customer's facility.

Proper material and adhesive testing and selection can be the difference between success and failure.

Part Dimension Verification

For accurate and precise part dimension measurement and verification, Fabrico uses an ACU-GAGE QC5000 computerized gantry video measuring system. Using this system, Fabrico engineers bring a high level of analytical power to production quality assurance for traceable, precise production measurements. In a typical lab setting, this equipment can offer greater measuring capacity than an optical comparator and fast inspection throughput. It is extensively used for prototyping and short run production. The system features:

- 1X objective – 230X monitor output
- Accuracy ± 0.0005 over 24 inches

Adhesive/Release Liner Testing

Fabrico tests adhesion and release to determine converting properties and high speed application characteristics using a CHEMINSTRUMENT AR 1000 tester. Tests can be performed to PSTC, ASTM, TLMI, FINAT, and AFERA adhesion and release testing procedures. The test measures controlled force, and Fabrico customizes testing for accuracy with complex applications within specific adhesive and application parameters. Tests feature:

- Selectable speed range and selectable test angle
- Test samples from ½ inch to 12 inches
- 3 grams/inch to 5 lb/inch range
- Operating temperature from 0°-70°C



Scale measures accurate coat weight (material plus adhesive coatings).

Material Strength

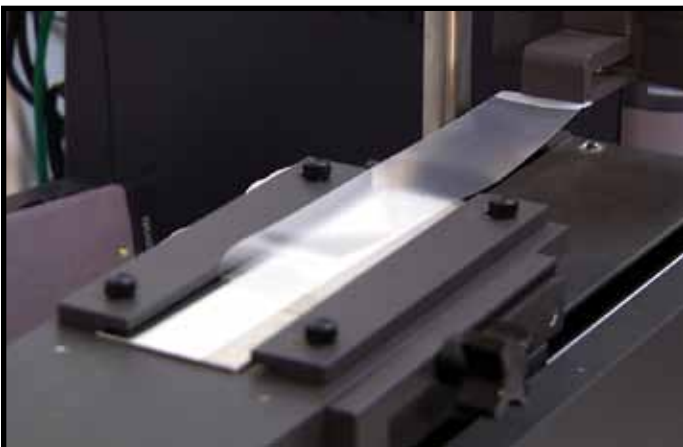
Material strength is measured to ensure that the material will meet application requirements. An Instron Model 4411 system is used for testing a wide range of materials in tension and compression. A test specimen is secured to the machine between the rigid base and the moving crosshead. The system drive moves the crosshead in an upward or downward direction to apply a tensile or compressive load to the specimen.

- Interchangeable load transducer
- 100 lb load capacity
- The width of the sample is not a factor or limitation

Static Shear Testing

Shear testing relates to the cohesive strength of the adhesive. A shear force is applied to a controlled area where the adhesive has been applied to the substrate. A static shear test involves a standard force being applied to the test sample with adhesive failure reported as the time it takes for failure to occur. A CHEMINSTRUMENT Bank Static Shear tester is used for this test.

- Withstand a fixed load over a set time
- 10 bank static shear tester



Peel testing measures adhesive bond strength.

Material Weight

A sample of the material is die-cut to a standard dimension. The liner is removed and the sample accurately weighed. The adhesive is then removed and the material re-weighed. Calculating the difference in weights, coat weight is determined. An ADAM PW54 system is used and features:

- 250 gram maximum weight
- 0.00001 gram self-calibrating balance

Microscopic Imaging

For materials and adhesive inspection, Fabrico uses a MOTIC DM 143 Digital Microscope with CCD video output to characterize materials and adhesive bonds. Side-by-side comparisons can be made for differences in test materials over a specified time period.



Dielectric testing measures the value of a material as an electric insulator.

Dielectric Testing

Dielectric testing allows the lab to measure the value of a material or adhesive as an electrical insulator. An electric test unit can measure the resistance to the flow of an electric current – a key test for both conductive and non-conductive materials and adhesives. Fabrico uses a HIPOTRONIC MODEL 750 AC dielectric test unit:

- 50 KVAC
- Measure capacitive, inductive, or resistive loads
- Complete and repeatable materials testing



All tests are performed to ASTM International standards.

Resistance and Voltage Test

Resistance and voltage for materials and adhesives are tested using a Fluke benchtop multimeter for calibrated precision testing. Resistance and voltage testing can provide precise measurement of the electrical properties of the adhesive in use.

Test Standards

All test and measurement equipment are calibrated annually per ISO 17025 standards. Tests are performed to ASTM (American Society for Testing and Materials) International standards. ASTM International standards are tools for customer satisfaction for a wide range of markets including materials and adhesives testing. Typical ASTM tests performed in Fabrico's laboratory include:

- Adhesion Test Methods – 90 degree and 180 degree
 - ASTM D 3330
 - ASTM D 6265
 - PSTC tests
- Tensile Tests ASTM D 828
- Dielectric Tests ASTM D 149 and 150
- Coat Weight ASTM F2217
- Resistance, capacitance, and voltage measurements

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About Fabrico

Fabrico is a market leader in providing engineered die-cut and liquid adhesives for product assemblers. By focusing on customers' needs, Fabrico has developed a track record of solving unique challenges and providing sound customer alternatives.

Market Expertise

Fabrico serves product assemblers in Medical Device and Equipment, Transportation, Military/Aerospace, Alternate Energy, and Government markets, drawing on its extensive experience in adhesives-based assembly solutions.

Manufacturing Capabilities

Proud to be recognized as a single-stop integrated solutions provider, Fabrico offers its customers enhanced supply chain management and strict ISO 9001:2008 quality manufacturing processes. A complete testing lab ensures that incoming materials meet or exceed specifications.

Customer Service

Fabrico provides a dedicated process consulting and technical sales team, customer integration and service, and logistical support to give customers the best assembly technology for their application.



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