The School of Packaging offers a wide variety of services, from design and sample making to processing and testing. Projects range from standardized testing to custom studies that may take several months. Faculty are available to design and manage specialized testing contracts.

The School’s testing laboratories are equipped to conduct most packaging tests in accordance with the American Society of Testing and Materials (ASTM) and International Organization for Standardization (ISO). In addition, we are a certified ISTA (International Safe Transit Association) test lab. The School also conducts various packaging tests in accordance with TAPPI and AIAG.

LABORATORY FACILITIES
The school of packaging has over 30,000 sq. ft. of laboratory space, including facilities for the following:

- Plastics packaging and spectroscopy (IR, UV/VIS)
- Plastics processing and converting
- Paper and corrugated packaging
- Glass and metal packaging
- Shock, vibration and compression testing
- Food packaging
- Medical packaging
- Distribution packaging
- Ergonomics
- Auto identification/RFID/Track & Trace
- Packaging machinery/equipment
- Design/sample making
- Mechanical testing
- Analytical: thermal analysis, headspace analysis, permeability, gas chromatography, optical properties
- Environmental conditioning (temperature and humidity)
- Testing of pallets, reusable racks, and containers

TESTING SERVICES
The tests listed in the next column are routinely performed. Other tests are also available.

DISTRIBUTION TESTS
- Drop testing
- Compression testing
- Shock testing
- Vibration testing (sine & random)
- Cushion testing
- Pallet & container testing

MATERIAL PROPERTY TESTS
- Optical properties: light transmission, color, and gloss.
- Thermal and physical properties: glass transition and melting temperature, crystallinity, molecular weight, melt flow index, heat capacity, heat deflection temperature.
- Mechanical properties: friction, tensile, compression, izod impact, burst strength, ECT, Elmendorf tear, falling dart impact, Gurley bending resistance.
- Barrier properties: solubility, diffusion and permeability coefficients (i.e. carbon dioxide, oxygen, water vapor permeability, organic vapor)
- Photo degradation and biodegradation tests: compostability and degradation.
- Corrosion protection (VCI materials)
- Hot tack/seal testing

PACKAGE INTEGRITY TESTS
- Closure testing
- Testing of insulated containers

CONTRACT RESEARCH
Special Testing and contract research is available through work with individual faculty members. This work includes, but is not limited to:

- Distribution environment measurement & simulation
- Product shelf life
- Product package compatibility
- Package ergonomics
- Composting experiments
- Customized packaging solutions
- Packaging optimization

Current Equipment Inventory list is available at www.packaging.msu.edu