



Testing of Recycled Plastic Materials

MECHANICAL, THERMAL, AND CHEMICAL CHARACTERIZATION FOR PERFORMANCE EVALUATION

KEY WORDS

RECYCLED PLASTICS,
MECHANICAL TESTING,
THERMAL ANALYSIS

DESCRIPTION

The Laboratory for Exploration in Environmental Architectural Materials (LEMAA) offers mechanical, thermal, and chemical testing services for recycled plastic materials, aimed at evaluating their behavior, quality, and suitability for use in architecture, construction, and product development. Using standardized characterization techniques, key properties are analyzed to determine material performance, thermal stability, and chemical composition, supporting design processes, technical validation, quality control, and feasibility analysis in recycling and circular economy initiatives.

AVAILABLE TECHNIQUES AND/OR EQUIPMENT

- Mechanical tests (tension, bending, impact, according to material and applicable standard)
- Thermal analysis (DSC, TGA or other equivalent methods)
- Chemical characterization of plastic materials
- Comparative evaluation between virgin and recycled materials
- Tests under national and international standards

APPLICATIONS

- Validation of recycled materials for new products
- Quality control in mechanical recycling processes
- Performance comparison between formulations and batches
- Technical support for R&D and circular economy projects
- Support for design decisions and material selection

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