LABORATORY AND MATERIALS TESTING

MGV Enterprises is focused on helping our clients resolve material and processing issues in the plastics industry. Laboratory characterization of materials compositions and polymer structure, correlated to material processing characteristics allows us to quickly get to root cause problems in material processing. If it is material or tooling development, processing characterization and process optimization, part or tooling design, painting/decorating failures, part weight or dimensional variations, or material contamination problems, we can provide the solutions.

Expertise Experience

- Most thermoplastic and some thermoset materials from a variety of applications: multilayered films, foamed thermoplastics, insert molding appliqués, engineering and commodity resins, plasticized resins, RRIM and PU foams, elastomers (TPV, TPE, POE, SBR, SEBS, COPE, TPU) painted or coated plastics adhesion failures, overmolding, co-injection, multi-component molding, metal injection molding, gas-assist molding.

Testing Capabilities

- Polymer identification and polymer structure analysis by FTIR and Transmission Electron Microscopy (TEM) fiber / filler analysis, impact performance, contamination or degradation analysis, paint or film layer thicknesses, surface appearance issues (gloss, pitting, striping, bubbles, splay, etc.).

- Plastic processing characterization with real time data capture using:

    - spiral flow tool with insertable gate, post gate and end of fill pressure transducers
    - multi-cavity ASTM tool for large tensile and 5” flame bars from .063” to .500” thick
    - 2.3” x 3.5”, 2-cavity chip tool with thickness from 0.6 mm to 4 mm and cavity transducers
    - specialized multiple boss or multiple rib configuration tools with cavity transducers
    - other process development tools with pressure transducers
    - counter pressure capability on most tools for structural foam and Class A surface structural foam development

Development Capabilities

- In house 310 Ton injection press with Intellimold™ and counter pressure capabilities for part design feasibility / validation, material processing studies coupled with materials analysis, material development or real-time flow analysis. Partnered resources for 100 Ton to 3300 Ton injection molding with Intellimold™ capability and data capture.