



- 1 *Filling study: Injection molding analysis of the MultiTester*
- 2 *Internal pressure testing device for the MultiTester*
- 3 *Tested MultiTester (internal pressure)*

NEW TEST SPECIMEN FOR INTERNAL PRESSURE: FROM INJECTION-MOLDING SIMULATION TO COMPONENT-TESTING

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Fraunhofer LBF's Department of Lightweight Structures has designed the "MultiTester", a new type of specimen for internal pressure testing. Using the MultiTester, the entire process chain for engineering plastics can be investigated. This includes flow balancing, material characterization, and component-like testing.

The MultiTester's modular design allows the characterization of unreinforced and reinforced plastics with respect to many different mechanical properties. Among these are:

- Fiber orientation,
- Weld line strength,
- Influence of process parameters during injection molding
- Various types of loading (static, dynamic and cyclic)

- Environmental factors such as temperature, humidity, media and aging.

The MultiTester also enables validation and calibration of multi-axial material models for numerical simulations.

