



## AUTOMOTIVE MATERIALS TESTING SOLUTIONS

MTS' automotive materials testing solutions are designed to help QC and R&D labs in the evaluation and determination of material properties for plastics, polymer matrix composites, metals, adhesives and elastomers.

### Lightweighting Applications

Static & Dynamic Materials Testing of Plastics, Composites, Metals, Fasteners & Adhesives

### Crash & Impact Events

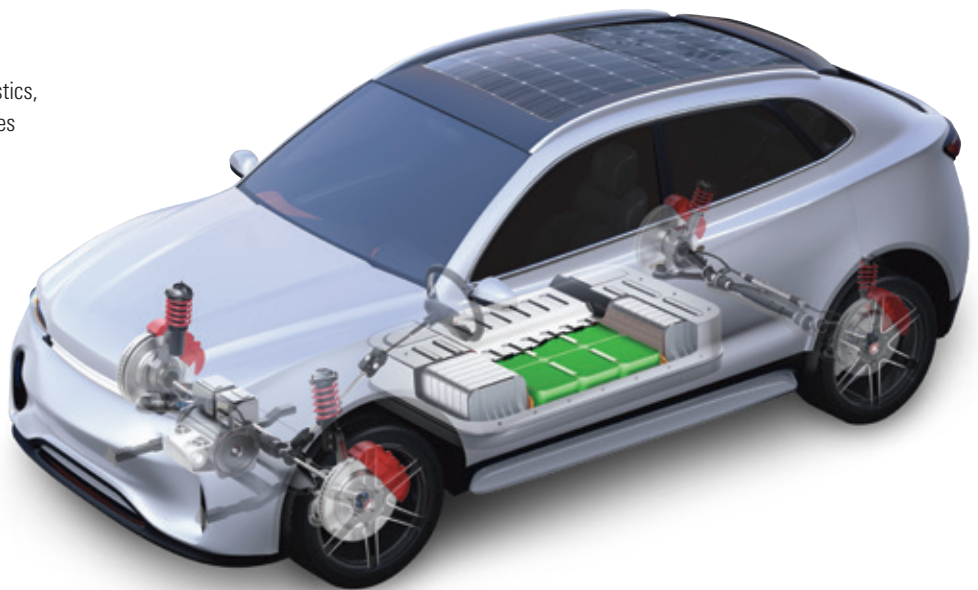
High Strain Rate Testing

### Elastomer Characterization

High Frequency Testing

### Engine & Exhaust Applications

High-Temperature Testing

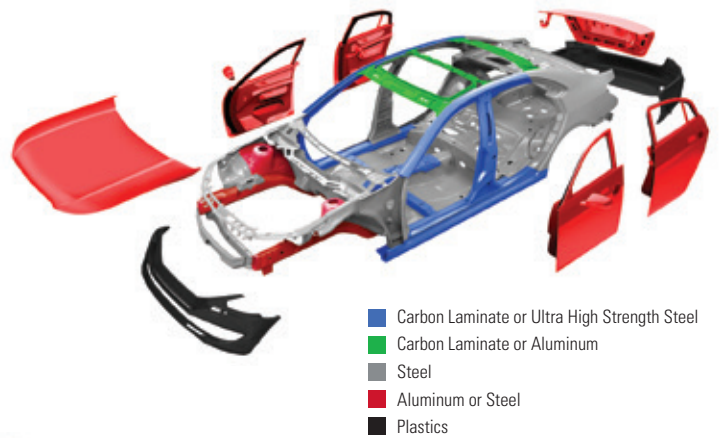


## Lightweighting Applications

Static & Dynamic Materials Testing of Plastics, Composites, Metals, Fasteners & Adhesives

Fuel efficiency requirements and the development of electric and autonomous vehicles are driving the need for lightweight materials. Automotive materials testing labs need to perform sophisticated testing to develop complex material and component models that are required to integrate those materials into newly developed vehicles.

MTS supports a full range of static and dynamic mechanical test methods under a variety of environmental conditions for plastics, polymer matrix composites, metal materials, fasteners and adhesives.



## Crash & Impact Events

High Strain Rate Testing

High-rate dynamic tests are used to simulate automotive accidents. In these and other critical applications, test engineers need equipment that can perform a variety of tests at the correct strain rates. These systems need to capture high-quality data throughout the test, with streamlined setup and enhanced control of the test. To meet all of these challenges, MTS delivers a family of high-rate servohydraulic test systems specifically designed to support a full spectrum of dynamic testing.

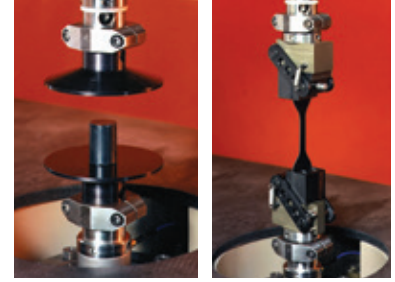


## Elastomer Characterization

### High Frequency Testing

Elastomers are used for many application in the automotive industry, including tires, suspension systems, and engine & exhaust mounts. MTS provides a full complement of electromechanical and servohydraulic test systems supporting

frequencies up to 1000 Hz, as well as single-axis systems for low-, medium- and high-frequency tests, and multiaxial solutions for accurately measuring static and dynamic elastomer behavior during research and development.



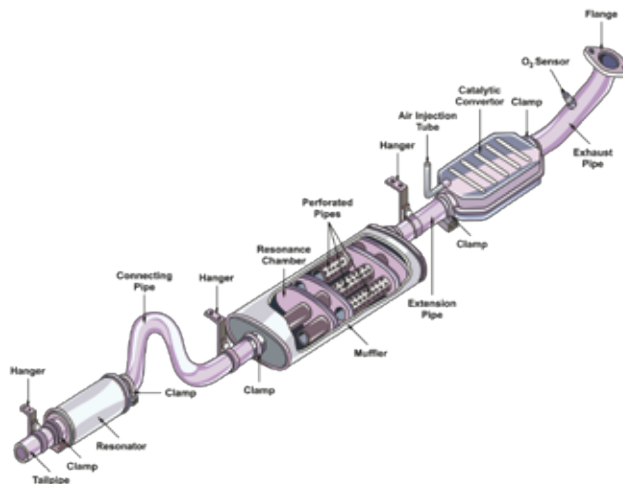
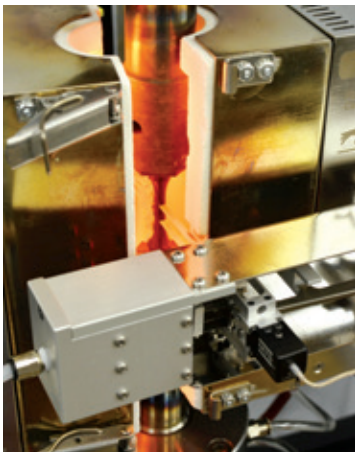
## Engine & Exhaust Applications

### High-Temperature Testing

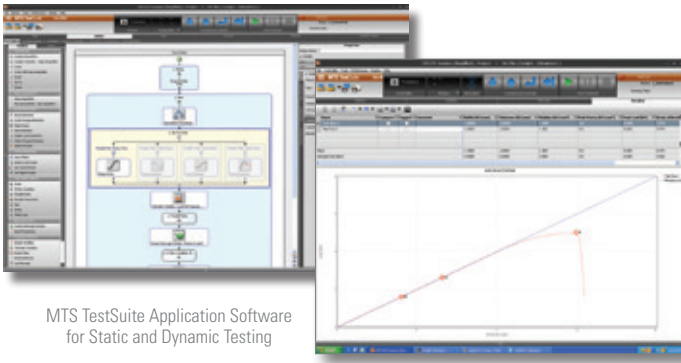
Exhaust systems need to operate at high service temperatures of up to 1050°C in an aggressive environment. MTS offers a selection of standard & tailored high temperature testing solutions to support the characterization of materials that are used to build engine and exhaust systems. The MTS High-Temperature Standard Solution includes everything required to meet

ISO, ASTM and other standards for a variety of materials tests including:

- » High-temp Tensile
- » High-temp Creep
- » High-temp Creep-Fatigue
- » High-temp Crack Initiation
- » High-temp Compression
- » High-temp Fracture Mechanics (*J<sub>Ic</sub>, J-R curve, Fatigue Crack Growth*)
- » Thermomechanical Fatigue



## Full Complement of Test Accessories



MTS TestSuite Application Software for Static and Dynamic Testing



Environmental Simulation Systems



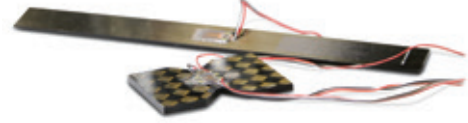
Alignment Solutions

### Learn More

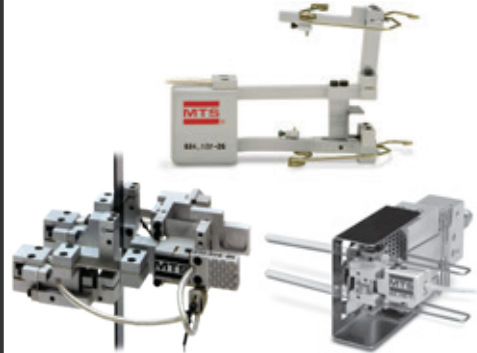
Contact MTS and explore how versatile, high-performance MTS test system can enhance the accuracy and efficiency of your research and development or manufacturing quality testing programs.

- » Robust Electromechanical & Servohydraulic Load Frames
- » Versatile FlexTest® Digital Controllers
- » Modular MTS TestSuite™ Software
- » Fatigue-rated Force Transducers
- » Durable Grips & Fixtures
- » Precision Extensometer/Strain Measurement
- » Accurate & Reliable Environmental Simulation
- » Critical Load Frame Alignment Tools
- » Unmatched MTS Service & Support

### Strain Measurement Options for Every Application



Strain Gages



Axial, Biaxial, Axial Averaging and High-Temp Extensometers



Automatic Extensometer



Non-contacting Video Extensometer



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