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Material Testing Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (Universal Testing Machines, Servo hydraulic Testing Machines, Hardness Testing Equipment and Impact Testing Equipment), By Material (Metal, Plastics, Rubber & Elastomer, Ceramics & Composites and Others), By End-Use Industry (Construction, Aerospace & D?fense, Automotive, Power, Educational Institutions and Others), By Region & Competition, 2021-2031F

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Abstracts

The Global Material Testing Market is anticipated to expand from USD 6.99 billion in 2025 to USD 9.81 billion by 2031, reflecting a compound annual growth rate of 5.81%. This industry includes the services and machinery utilized to assess the chemical, mechanical, and physical characteristics of materials like composites, polymers, and metals. Growth is largely fueled by stringent regulatory requirements in sectors such as automotive and aerospace, which mandate thorough quality checks to guarantee reliability and safety. Additionally, the continuous global growth of civil infrastructure initiatives requires ongoing testing of structural elements, further propelling market advancement.

The American Society for Nondestructive Testing reported that the U.S. nondestructive testing workforce included 89,800 professionals in 2025. Although this constitutes a large pool of talent, it falls short of satisfying the escalating industrial needs on a global scale. As a result, a major obstacle hindering the market's worldwide growth is the

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ongoing scarcity of qualified inspectors needed to manage sophisticated analytical equipment and decipher the resulting test information.

Market Driver

The swift growth of the infrastructure and construction industries serves as a primary catalyst for the Global Material Testing Market. Ongoing safety assessments for steel and concrete are essential in civil engineering endeavors, with contractors requiring exhaustive material evaluations to guarantee adherence to building regulations and maintain structural soundness. The Associated General Contractors of America noted in a January 2026 article, 'Construction Spending Increases By 0.5 Percent In October,' that construction expenditures hit a seasonally adjusted annual rate of $2.18 trillion. This massive financial investment heightens the need for nondestructive testing services to minimize the likelihood of structural failures.

The market is additionally stimulated by a rising need for cutting-edge materials within the aerospace and automotive fields. To enhance fuel economy, producers are substituting conventional metals with lighter composite alternatives, which demand specific mechanical testing to ensure they remain safe under intense stress. In April 2026, Simple Flying published 'Here's How Much Fuel The Boeing 787 Dreamliner Saves Compared To Older Jets,' noting that utilizing a 50 percent composite framework allowed the plane to cut fuel consumption by 20 percent. This emphasis on decreasing weight drives aerospace firms to implement strict evaluation protocols. The broader industry bolsters this expansion via infrastructural investments, such as SGS opening a new 500-square-meter material testing lab in Mexico in 2025, providing crucial facilities for confirming the resilience of modern materials.

Market Challenge

Expansion within the global material testing market is restricted by an ongoing deficit of certified inspectors who are trained to utilize analytical tools and process test results. Verifying that material properties align with strict regulatory guidelines demands high precision, and an inability to find enough qualified experts for these required assessments often leads to prolonged project timelines in sectors like automotive and aerospace. Such delays inherently decelerate production cycles and decrease the overall number of evaluations that testing companies can finalize in a given financial year.

Additionally, the lack of available talent compels testing centers to run at sub-optimal

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equipment capacities, as machinery cannot be fully leveraged without certified staff managing the operations. The American Welding Society reported in 2025 that roughly 82,500 inspection and welding roles need to be filled each year just to match industrial requirements. Given the restricted pool of candidates, organizations face increased labor expenses as they compete for available professionals. These rising operational costs squeeze the profit margins of testing providers, hindering their ability to fund facility upgrades and ultimately curbing broader market advancement.

Market Trends

Incorporating artificial intelligence into testing machinery is revolutionizing the way sectors approach material evaluation. Utilizing smart algorithms, contemporary platforms can independently structure experiments, process intricate datasets, and forecast material performance without requiring constant human monitoring. This level of automation enables testing facilities to speed up the assessment of composites. A September 2025 article from the Massachusetts Institute of Technology, 'AI system learns from many types of scientific information and runs experiments to discover new materials,' highlighted an AI system that autonomously performed 3,500 electrochemical evaluations to perfect material creation. Such advancements broaden the worldwide market by expediting thorough testing procedures.

Another significant trend altering the landscape is the transition towards mobile material testing equipment. In the past, parts had to be shipped to permanent labs for structural analysis, which often interrupted daily operations. Today, compact sensors enable technicians to conduct diagnostics directly in the field, delivering rapid results on location. As noted in a December 2025 ETher NDE article, 'ETher NDE Launches PockET A Breakthrough in Ultra Portable Eddy Current Flaw Detection,' the firm introduced a 321-gram flaw detector designed for examining tight spaces. This increased mobility expands the potential uses for nondestructive evaluation and encourages the integration of remote diagnostic instruments.

Key Market Players

MTS Systems Corporation

ZwickRoell GmbH & Co. KG

Illinois Tool Works Inc.

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ADMET Inc.

AMETEK Inc.

Applied Test Systems Inc.

Mitutoyo Corporation

Tinius Olsen Ltd.

Shimadzu Corporation

Hegewald & Peschke Me?- und Pr?ftechnik GmbH

Report Scope

In this report, the Global Material Testing Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Material Testing Market, By Type

Universal Testing Machines

Servo hydraulic Testing Machines

Hardness Testing Equipment

Impact Testing Equipment

Material Testing Market, By Material

Metal

Plastics

Rubber & Elastomer

Ceramics & Composites

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India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Material Testing Market.

Available Customizations:

Global Material Testing Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

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Company Information

Detailed analysis and profiling of additional market players (up to five).

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