Material testing

Plastics Testing



Plastics are used for an unlimited number of applications, from packaging to biomedical, automotive, and electronics applications. Key properties evaluated during testing are tensile strength, yield strength, modulus, and elongation. Major plastics testing standards include ASTM D638, ASTM D790, ISO 8295, ISO 527, and The Definitive Guide to ISO 178 Flexure Testing for Plastics.

Metal Testing



Metals are widely used in the automotive and construction industries. Key measurements for metals include r-value, n-value, modulus, tensile strength, strain, offset yield, and upper and lower yield strength. Common metals testing standards include ASTM E8, ASTM A370, and ISO 6892.

Composites Testing



Composites are complex materials made from polymers reinforced with a fiber such as glass, aramid, or carbon. They are used extensively in applications such as aerospace and wind energy that demand high strength, lightweight materials. Key composites testing standards include ASTM D3039 and ISO 527-4. Important measurements include tensile strength, shear strength, yield strength, and fracture toughness.

Elastomers Testing



Elastomers are high-elongation materials such as natural rubber, silicone, and polyurethanes that are used for making tires, medical devices, sealants, and many other products. Tensile strength, total elongation, and tensile stress at a given location are key properties. Major testing standards include ASTM D412, ASTM D642, and ISO 34.

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