

MATERIAL TESTING MACHINES

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ABSTRACT

Materials testing is based on theoretical knowledge. Buildings, structures, bridges, machines and mechanisms, spaceships and rockets, clothing and other aggregates are built, made, prepared and sewn based on the results of the Material Test.

Keywords: materials, resistance, machines, industrial application of materials.

INTRODUCTION

When designing building materials, it is taken into account how durable they are and how much deformation they show. The main test used in this regard is the tension test. In these tests, the elastic and plastic deformation characteristics of the material are determined. In general, some force applied to a material causes a change in shape in the material. When these forces are removed, if the material returns to its original shape, it is called elastic deformation, and if it does not, it is called plastic deformation. Another mechanical property is the hardness of the material. The resistance of a material against a solid object immersed in the surface of the material is called hardness value. This value is related to the strength of the materials.



Another mechanical test applied to building materials is the impact test. These tests determine the dynamic strength of a material under conditions that force the material to behave brittle. When materials are subjected to cyclic stresses below their tensile strength and yield strength, cracks may develop after a certain period of time. This is called a fatigue injury. Fatigue tests determine when building materials are damaged. Enterprises working in the construction industry need to produce cheap, but high-quality products. As in every industry, there is fierce competition. Therefore, our organization provides mechanical testing services to enterprises as part of material testing. The purpose of these studies is to provide more efficient and high-quality products and services.

Of course, for most manufacturers, this includes good news through research and job creation. In addition, when a new product or material is discovered as a result of R&D breakthroughs, there is financial pressure and competitive pressure for the first product.

At the same time, this scenario also carries significant risks, as a company that quickly enters the market with substandard materials or the wrong component, material losses and lawsuits, as well as customer erosion and loss of customer loyalty. what kind of thing If you can face. For any manufacturer, overheated laptops that burst into flames,

smartphones with exploding batteries, and similar situations are enough to understand that large-scale material testing is not a luxury. Moreover, from the aviation and defense sectors to consumer goods and construction industries. Many business sectors must adhere to strict quality control and safety standards. If they are not fulfilled, they can be assigned by the regulatory bodies of their fields and these penalties can lead to a process that leads to the closure of the business when it is treated periodically.

SUMMARY

Briefly, in many industrial applications, material tests are performed to certify materials to a specific standard or specification or to verify that they meet the necessary criteria before use. These tests include methods that provide information about the structure or mechanical properties of a material. In addition, the composition or basic composition of the material is checked.

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