ESCR Environmental Stress Cracking Tester

Introduction:

Environmental Stress Cracking (ESC) is a common failure mechanism in plastics, where materials crack or fail due to environmental conditions such as exposure tochemicals, stress, and other factors. The ESCR™ Environmental Stress Cracking Tester by is designed to evaluate a plastic material's resistance tocracking under stress in harsh environments.

With advanced testing capabilities, the ESCR system enables precise and reliable testing, ensuring manufacturers can determine a material's durability in real-world conditions. This is crucial for industries like packaging, automotive, aerospace, and consumer goods, where material integrity under stress is critical for safety and performance.

The ESCR Environmental Stress Cracking Tester offers a user-friendly interface, rapid testing setups, and compliance with international testing standards,making it an ideal choice for research labs, quality control departments, and manufacturers aiming to enhance the long-term performance of their materials.

Application:

The ESCR Environmental Stress Cracking Tester is used to determine the susceptibility of ethylene plastics (as defined in terminology D883) to environmental stress-cracking under the conditions specified by ASTM D1693-01. Ethylene plastics may exhibit mechanical failure by cracking when subjected to stress and exposed to environments such as soaps, wetting agents, oils, or detergents. In this test, bent specimens of plastic, each with a controlled imperfection on one surface, are exposed to the action of a surface-active agent. The proportion of the total number of specimens that crack within a given time is observed, providing valuable insight into the material's durability.

ASTM D1693 - Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics

ASTM D1693 is the industry standard that governs the testing of environmental stress cracking in ethylene-based plastics. It outlines the procedures to expose materials to specific conditions (usually in the presence of chemicals) and measure their susceptibility to cracking. This test method is crucial for ensuring that materials can withstand environmental factors without premature failure, making it indispensable in the evaluation of plastic materials.

Technical sheet :

1.Thermostatic chamber

2.Nicking device

3.Shifting device

4.Bending device

5.Specimen holder (5 pcs)

6.Test tube and plug (5 pcs)

FOCUS IN MATERIAL TEST

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