

DIT-01 Falling Dart Impact Tester

Brief Introduction

DIT-01 Falling Dart Impact Tester is applicable to determination of energy that causes plastic film or sheeting to fail under specified conditions of impact of a free-falling dart. This energy is expressed in terms of the weight (mass) of the missile falling from a specified height which would result in 50 % failure of specimens tested.



Technical Features

- ◆ 7 inch HD LCD, displaying test data and curves in real time
- ◆ Dual test modes of Method A and Method B are available. The test status can be automatically judged by the system.
- ◆ Standard, modularized and systematic designs can meet personalized requirements of the users
- ◆ Well-designed user interface for touch-screen operations
- ◆ Electromagnetic dart releasing mechanism can release the dart automatically, which minimizes the errors caused by manual operations
- ◆ Pneumatic clamping, 2 starting modes of manual and pedal switch and built-in

observation light are convenient to the user's operation

- ◆ Professional software supports display, output and printing of test results in multiple units
- ◆ Graphic display of the test process, clearly and intuitively showing the test results
- ◆ With a powerful data storage function, which can store more than 50,000 data
- ◆ Embedded micro-computer chips, simplified and efficient user interface provide users with comfortable and smooth operating experience
- ◆ Key components and parts are supplied by world-brand manufacturers, which guarantee the stable and reliable performance of the instrument
- ◆ Equipped with micro-printer and standards RS232 interface, which is convenient to PC connection and data transmission.

Test Principle

Before starting the test, choose test method, and estimate an initial mass and Δm . Start the test. If the first specimen fails, decrease the mass of the falling dart by Δm . If the first specimen is not a failure, increase the mass of the falling dart by Δm . Continue the test according to this rule. In brief, increase or decrease by Δm according to whether the former specimen is a failure or not. After 20 specimens, calculate the total number of failed specimens N . If N equals to 10, the test is over. If N is less than 10, add specimens and continue to test until N equals to 10. If N is greater than 10, add specimen and continue the test until the number of non-failure specimens reaches 10. Then the tester calculates the test results automatically according to specific formulas.

Applications

Basic Application	Films & Sheeting	Impact resistance tests of plastic films, sheeting, composite films such as PE plastic wrap, stretch films, PET sheeting, various food packaging bags and heavy-duty bags, etc. (Specimen Thickness < 1mm)
	Aluminum Foils & Aluminum Plastic Composite Films	Impact resistance tests of aluminum foils and aluminum plastic composite films.
	Paper & Paper Board	Impact resistance tests of paper and paper boards.
Extended Application	Impact Tests with Falling Balls	Mount the specimen on specific clamp for falling ball impact test and select falling ball of certain weight for the impact test. Check the status of the specimen and determine the impact resistance of the specimen
	Impact Tests of	Mount the shoulder lining specimen to the specified

	Shoulder Lining	clamp and select falling dart of certain weight for impact test. Check the status of the specimen and determine the impact resistance of the shoulder lining specimen.
	Impact Tests of Bottle Caps	The bottle caps are impacted from multiple angles by falling balls at specified height. Then observe whether the caps are broken, injured or fall off.

Technical Specifications

Item		DIT-01
Test Method		Method A & Method B
Test Range	Method A	50~2000g (Optional)
	Method B	300~2000g (Optional)
Resolution		0.1g (0.1J)
Accuracy of Mass of Weights & Missile		±0.5%
Specimen Size		>150mm × 150mm
Specimen Clamp		Pneumatic Clamp
Gas Supply Pressure		0.5MPa~0.7MPa (Customers will need to prepare for gas supply)
Port of Gas Supply		Φ8mm PU Tubing
Power Supply		AC 220V 50Hz / AC 120V 60Hz
Instrument Dimension		Method A: 500 mm (L) × 450mm (W) × 1320 mm (H) Method B: 500 mm (L) × 450mm (W) × 2160 mm(H)

Net Weight

68 kg (Standard)

Standards

ISO 7765-1-1988, ASTM D1709, JIS K7124-1, GB/T 9639.1-2008

Configuration

Standard Configuration	Instrument with Configuration for Method A, Micro-printer
Optional Parts	Configuration for Method B

Note: 1.The gas supply port of the instrument is $\Phi 8$ mm PU Tubing;
2. Customers will need to prepare for gas supply.

Technical specifications are subject to change without further notice. Please visit our website at www.horizontester.com for latest information.