

IMPACT TEST FOR PAINTED PANELS

Application

This method is used to measure the impact resistance of painted steel panels and plastic panels or parts.

Apparatus Required

Impact Tested

This instrument consists of an impact rod, a glide tube, a base plate, and a supporting bracket.

The 25 mm diameter steel rod, which does the impacting, tapers at the impact end to form a round nose with 6.35 mm radius. The tube serves to glide the rod in its downward fall so that the nose of the rod engages a 12.7 mm hole in the base plate. The impact rod contains a pin that protrudes through a vertical slot in the guide tube. The tube is graduated so that when the rod is raised to one of the marks and allowed to fall, a specific impact energy (weight x distance fallen) is delivered to a paint panel placed over the hole in the base plate.

Source: Model IG-1115
Gardner Neotec Division of Pacific Scientific Co.
1110 East West Highway
Silver Springs, Maryland 20910 U.S.A.

Materials Required

Test Panels

Prepare steel panels as described in FLTM BI 103-02 or as required by the applicable Engineering Materials Specification. Plastic panels will be prepared using the recommended cleaning and painting methods established in the relevant Engineering Materials Specification for the specific plastic under test. For parts, cut a 150 x 100 mm sample panel from a flat portion and test according to procedure.

Date	Action	Revisions
2001 03 14	Revised	Editorial – no technical change A. Cockman
1993 04 06		

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Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Place the panel over the 12.7 mm hole in the base plate of the impact tester with the painted side up or the plastic panel painted side up over a solid base plate.
2. Start the test by impacting the panel at an energy well below that designated by the Engineering Material Specification. Select another flat spot on the panel and impact at a higher energy. Continue impacting at a new location in increments until the energy required by the Engineering Material Specification is reached. If feasible, continue impacting at two or three increments above that required by the Engineering Material Specification. The minimum distance between impacts shall be 25 mm.
3. Convert all "weight x distance fallen" readings into Nm (or cm.kg.f) as required by the Engineering Material Specification.

Evaluation

Examine the panel with the unaided eye and report any flaking or cracking that has occurred.

When testing plastic, a minimum of three identical samples of both painted and unpainted panels or parts should be tested. The difference in impact resistance between the painted and unpainted samples should be reported as percent reduction.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.