

PLASTICS - RESISTANCE TO ARTIFICIAL WEATHERING**Application**

This method is used to test the resistance of molded plastic parts to artificial weathering by exposure to ultraviolet energy, heat, humidity, and cold.

Apparatus Required**Oven**

Approximate internal dimensions: 725 mm wide, 610 mm deep, and 520 mm high capable of maintaining a temperature of 60 +/- 2 °C. The oven is to be equipped with thermostat control and a red pilot light. A Grieves-Henry oven (Model CR-326, Model PL-1) or equivalent is suitable.

Fluorescent Sunlamp Cabinet

Modified oven as shown above equipped with sunlamp fixture shown below.

Sunlamp Fixture - #PL-326* or equivalent

To be completely installed in the oven. 20 gauge steel box with screw cover; two 20 watt high power-factor ballasts; 4 fluorescent starter assemblies; 4 pairs fluorescent lamp holders; 4 FS 20T-12 fluorescent sunlamps.

*Source:

Infra Corporation
5454 Dixie Highway
Waterford, MI 48095
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Humidity Cabinet

The humidity cabinet must be maintained at 38 +/- 2 °C and a relative humidity of 95 to 100 %. The moist air must be circulated in the cabinet by a fan or other suitable means. Test specimens must be suitably supported and arranged in the test cabinet so that no water can drip from one specimen onto another.

Cold Box

Capable of maintaining a temperature of -30 +/- 2 °C.

Date	Action	Revisions
2001 03 28	Revised	Editorial – no technical change A. Cockman
2000 03 02	Revised	Editorial – no technical change A. Cockman
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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. Arrange the test specimens in such a manner so that no water can drip from one specimen onto another.
2. Expose EXTERIOR parts to five (5) continuous cycles, and INTERIOR parts to three (3) continuous cycles (or the number specified in the applicable Engineering Material Specification) as detailed below.
3. Each single cycle consists of the following:
 - A. 2 h in the humidity cabinet operating at 38 +/- 2 °C and 95 to 100 % humidity.
 - B. 4 h in the fluorescent sunlamp cabinet at 60 +/- 2 °C. The test specimens must be 300 mm from the lamps.
 - C. 2 h in the cold box at -30 +/- 2 °C.
 - D. 16 h in the fluorescent sunlamp cabinet at 60 +/- 2 °C.
4. Examine and report any changes in appearance or other physical properties occurring as the result of this test as required by the applicable Engineering Material Specification.

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.