

PLEXIGLAS® SHEET: Building Codes

ACRYLIC SHEET

Light Diffusers made exclusively* from Plexiglas® acrylic molding resins and Plexiglas acrylic sheet will meet the following criteria under Model Building Compliance when properly installed.**

Light Diffusing Systems - Section 2603.8.1

Light transmitting plastic materials in light diffusing systems shall comply with Chapter 8 unless the approved plastic used in the light diffusing system meets the following requirements:

1. Diffusers shall fall from their mountings at an ambient temperature of at least 200°F below the ignition temperature of the plastic.
2. Diffusers shall remain in place at an ambient room temperature of 175°F for a period of not less than 15 minutes.
3. The maximum length of any single plastic panel shall not exceed 10 feet (3048 mm), and the maximum area of any single plastic panel shall not exceed 30 square feet (2.8m²).
4. The area of approved plastic materials when used in required exits as defined in Chapter 10 shall not exceed 30% of the aggregate area of the ceiling in which they are installed.

Light - Diffusing Systems - 02504.5.1

Approved light-transmitting plastic diffusers shall comply with Section 803.0 unless the plastic panels will fall from the mountings before igniting and at an ambient temperature of at least 200°F (93°C) below the ignition temperature of the panels. The panels shall remain in place at an ambient room temperature of 175°F (79°C) for a period of not less than 15 minutes.

Light Diffusing Systems - Section 2604.7.1.2

Approved plastic materials shall comply with 803.3 unless the plastic panels meet the following requirements:

1. Fall from their mountings at an ambient temperature of at least 200°F (93°C) below the ignition temperature of the plastic material as measured by ASTM D1929.
2. Remain in place at an ambient room temperature of 175°F (79°C) for a period of not less than 15 minutes.
3. The maximum length of any single plastic panel shall not exceed 10 feet (3048 mm) and maximum area of any single light diffuser shall not exceed 30 sq. ft (2.8m²). **APPROVED PLASTIC**

All three model codes define an Approved Plastic under the following criteria.

A thermoplastic, thermosetting or reinforced plastic material which has a self-ignition temperature of 650°F or greater when tested in accordance with ASTM D1929, a smoke density rating no greater than 450 when tested in accordance with ASTM E84 in the way intended for use or a smoke density rating no greater than 75 when tested in the thickness intended for use by ASTM D2843 and which meets one of the combustibility classifications listed below:

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CC1 - Plastic material which has a burning extent of 1 inch or less when tested in nominal .060 inch thickness by ASTM D635 at the thickness intended for use.

CC2 - Plastic material which has a burning extent of 2.5 inches or less when tested in nominal .060 inch thickness by ASTM D635 at the thickness intended for use.

Plexiglas® Acrylic Molding Resins are Approved CC2 Plastic under the ICC (Report #ESR-1653).

Light-diffusers made from Plexiglas® molding resins will meet the following criteria under UL 1570***

UL 1570 FLUORESCENT LIGHTING FIXTURES

Plastic Light Diffusers and Lenses - Section 53.13 -14 53.13 The material of a plastic diffuser or lens shall be such that it will not burn in its intended position when exposed to the flame of burning alcohol in a standard 3-foot square test pan located at four feet below the fixture in which the material is mounted.

53.14 A plastic material shall not propagate flame from one fixture to an adjacent fixture when the two fixtures are mounted end-to-end in the intended manner and the diffuser or lens of one is ignited.

*laminated materials or those containing additional materials other than Plexiglas® acrylic molding resin must be evaluated on an individual basis. **Proper installation is obtained by, in no way impeding the material from falling from its mountings by the use of clips, fasteners, screws, glue, or other means of securing the material.

***UL listing of lighting fixtures is based upon the lighting fixture as a whole component. Manufacturers must obtain a UL listing directly from Underwriter's Laboratories. BC-4 (Revised 8/18/2006).

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