

# 2021 Virginia Construction Code

## CHAPTER 26 PLASTIC

### SECTION 2606 LIGHT-TRANSMITTING PLASTICS

#### 2606.1 General.

The provisions of this section and Sections 2607 through 2611 shall govern the quality and methods of application of light-transmitting plastics for use as light-transmitting materials in buildings and structures. Foam plastics shall comply with Section 2603. Light-transmitting plastic materials that meet the other code requirements for walls and roofs shall be permitted to be used in accordance with the other applicable chapters of the code.

#### 2606.2 Approval for use.

Sufficient technical data shall be submitted to substantiate the proposed use of any light-transmitting material, as approved by the *building official* and subject to the requirements of this section.

#### 2606.3 Identification.

Each unit or package of light-transmitting plastic shall be identified with a *mark* or decal satisfactory to the *building official*, which includes identification as to the material classification.

#### 2606.4 Specifications.

Light-transmitting plastics, including thermoplastic, thermosetting or reinforced thermosetting plastic material, shall have a self-ignition temperature of 650°F (343°C) or greater where tested in accordance with ASTM D1929; a *smoke-developed index* not greater than 450 where tested in the manner intended for use in accordance with ASTM E84 or UL 723, or a maximum average smoke density rating not greater than 75 where tested in the thickness intended for use in accordance with ASTM D2843 and shall conform to one of the following combustibility classifications:

**Class CC1:** Plastic materials that have a burning extent of 1 inch (25 mm) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D635.

**Class CC2:** Plastic materials that have a burning rate of  $\frac{2}{2}$  inches per minute (1.06 mm/s) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D635.

#### [BS] 2606.5 Structural requirements.

Light-transmitting plastic materials in their assembly shall be of adequate strength and durability to withstand the *loads* indicated in Chapter 16. Technical data shall be submitted to establish stresses, maximum unsupported spans and such other information for the various thicknesses and forms used as deemed necessary by the *building official*.

#### [BS] 2606.6 Fastening.

Fastening shall be adequate to withstand the *loads* in Chapter 16. Proper allowance shall be made for expansion and contraction of light-transmitting plastic materials in accordance with accepted data on the coefficient of expansion of the material and other material in conjunction with which it is employed.

#### 2606.7 Light-diffusing systems.

Unless the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, *light-diffusing systems* shall not be installed in the following occupancies and locations:

1. Group A with an *occupant load* of 1,000 or more.
2. Theaters with a *stage* and proscenium opening and an *occupant load* of 700 or more.
3. Group I-2.
4. Group I-3.
5. *Interior exit stairways* and *ramps* and exit passageways.

#### 2606.7.1 Support.

Light-transmitting plastic diffusers shall be supported directly or indirectly from ceiling or roof construction by use of noncombustible hangers. Hangers shall be not less than No. 12 steel-wire gage (0.106 inch) galvanized wire or equivalent.

#### 2606.7.2 Installation.

Light-transmitting plastic diffusers shall comply with Chapter 8 unless the light-transmitting plastic diffusers will fall from the mountings before igniting, at an ambient temperature of not less than 200°F (111°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.

#### 2606.7.3 Size limitations.

Individual panels or units shall not exceed 10 feet (3048 mm) in length nor 30 square feet (2.79 m<sup>2</sup>) in area.

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#### **2606.7.4 Automatic sprinkler system.**

In buildings that are equipped throughout with an *automatic sprinkler system* in accordance with [Section 903.3.1.1](#), plastic *light-diffusing systems* shall be protected both above and below unless the sprinkler system has been specifically approved for installation only above the *light-diffusing system*, or the *light-diffusing system* is listed and labeled in accordance with [UL 723S](#). Areas of *light-diffusing systems* that are protected in accordance with this section shall not be limited.

#### **2606.7.5 Electrical luminaires.**

Light-transmitting plastic panels and light-diffuser panels that are installed in approved electrical luminaires shall comply with the requirements of [Chapter 8](#) unless the light-transmitting plastic panels conform to the requirements of [Section 2606.7.2](#). The area of approved light-transmitting plastic materials that is used in required *exits* or *corridors* shall not exceed 30 percent of the aggregate area of the ceiling in which such panels are installed, unless the building is equipped throughout with an *automatic sprinkler system* in accordance with [Section 903.3.1.1](#).

#### **2606.8 Partitions.**

Light-transmitting plastics used in or as partitions shall comply with the requirements of [Chapters 6](#) and [8](#).

#### **2606.9 Bathroom accessories.**

Light-transmitting plastics shall be permitted as glazing in shower stalls, shower doors, bathtub enclosures and similar accessory units. Safety glazing shall be provided in accordance with [Chapter 24](#).

#### **2606.10 Awnings, patio covers and similar structures.**

*Awnings* constructed of light-transmitting plastics shall be constructed in accordance with the provisions specified in [Section 3105](#) and [Chapter 32](#) for projections. Patio covers constructed of light-transmitting plastics shall comply with [Section 2606](#). Light-transmitting plastics used in canopies at motor fuel-dispensing facilities shall comply with [Section 2606](#), except as modified by [Section 406.7.2](#).

#### **2606.11 Greenhouses.**

Light-transmitting plastics shall be permitted in lieu of glass in *greenhouses*.

#### **2606.12 Solar collectors.**

Light-transmitting plastic covers on solar collectors having noncombustible sides and bottoms shall be permitted on buildings not over three *stories above grade plane* or 9,000 square feet (836.1 m<sup>2</sup>) in total floor area, provided that the light-transmitting plastic cover does not exceed 33.33 percent of the roof area for CC1 materials or 25 percent of the roof area for CC2 materials.

**Exception:** Light-transmitting plastic covers having a thickness of 0.010 inch (0.3 mm) or less shall be permitted to be of any plastic material provided that the area of the solar collectors does not exceed 33.33 percent of the roof area.