

2021 Virginia Construction Code

CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 720 THERMAL- AND SOUND-INSULATING MATERIALS

720.1 General.

Insulating materials shall comply with the requirements of this section. Where a *flame spread index* or a *smoke-developed index* is specified in this section, such index shall be determined in accordance with [ASTM E84](#) or [UL 723](#). Any material that is subject to an increase in *flame spread index* or *smoke-developed index* beyond the limits herein established through the effects of age, moisture or other atmospheric conditions shall not be permitted. Insulating materials, when tested in accordance with the requirements of this section, shall include facings, when used, such as vapor retarders, vapor permeable membranes and similar coverings, and all layers of single and multilayer reflective foil insulation and similar materials.

Exceptions:

1. *Fiberboard* insulation shall comply with [Chapter 23](#).
2. Foam plastic insulation shall comply with [Chapter 26](#).
3. Duct and pipe insulation and duct and pipe coverings and linings in plenums shall comply with the [International Mechanical Code](#).
4. All layers of single and multilayer reflective plastic core insulation shall comply with [Section 2614](#).

720.2 Concealed installation.

Insulating materials, where concealed as installed in buildings of any type of construction, shall have a *flame spread index* of not more than 25 and a *smoke-developed index* of not more than 450.

Exception: Cellulosic fiber loose-fill insulation complying with the requirements of [Section 720.6](#) shall not be required to meet a *flame spread index* requirement but shall be required to meet a *smoke-developed index* of not more than 450 when tested in accordance with [CAN/ULC S102.2](#).

720.2.1 Facings.

Where such materials are installed in concealed spaces in buildings of Type III, IV or V construction, the *flame spread* and *smoke-developed* limitations do not apply to facings, coverings, and layers of reflective foil insulation that are installed behind and in substantial contact with the unexposed surface of the ceiling, wall or floor finish.

Exception: All layers of single and multilayer reflective plastic core insulation shall comply with [Section 2614](#).

720.3 Exposed installation.

Insulating materials, where exposed as installed in buildings of any type of construction, shall have a *flame spread index* of not more than 25 and a *smoke-developed index* of not more than 450.

Exception: Cellulosic fiber loose-fill insulation complying with the requirements of [Section 720.6](#) shall not be required to meet a *flame spread index* requirement but shall be required to meet a *smoke-developed index* of not more than 450 when tested in accordance with [CAN/ULC S102.2](#).

720.3.1 Attic floors.

Exposed insulation materials installed on *attic* floors shall have a critical radiant flux of not less than 0.12 watt per square centimeter when tested in accordance with [ASTM E970](#).

720.4 Loose-fill insulation.

Loose-fill insulation materials that cannot be mounted in the [ASTM E84](#) or [UL 723](#) apparatus without a screen or artificial supports shall comply with the *flame spread* and *smoke-developed* limits of [Sections 720.2](#) and [720.3](#) when tested in accordance with [CAN/ULC S102.2](#).

Exception: Cellulosic fiber loose-fill insulation shall not be required to meet a *flame spread index* requirement when tested in accordance with [CAN/ULC S102.2](#), provided that such insulation has a *smoke-developed index* of not more than 450 and complies with the requirements of [Section 720.6](#).

720.5 Roof insulation.

The use of combustible roof insulation not complying with [Sections 720.2](#) and [720.3](#) shall be permitted in any type of construction provided that insulation is covered with *approved roof coverings* directly applied thereto.

720.6 Cellulosic fiber loose-fill insulation and self-supported spray-applied cellulosic insulation.

Cellulosic fiber loose-fill insulation and self-supported spray-applied cellulosic insulation shall comply with [CPSC 16 CFR Parts 1209](#) and [1404](#). Each package of such insulating material shall be clearly labeled in accordance with [CPSC 16 CFR Parts 1209](#) and [1404](#).

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720.7 Insulation and covering on pipe and tubing.

Insulation and covering on pipe and tubing shall have a *flame spread index* of not more than 25 and a *smoke-developed index* of not more than 450.

Exception: Insulation and covering on pipe and tubing installed in plenums shall comply with the [International Mechanical Code](#).