

AFT Carbon Smart™ Cellulose Insulation Specification



1. Scope

1.1 This specification provides data related to AFT Carbon Smart™ cellulose insulation. Provides resistance to heat flow for thermal applications, noise control for acoustical treatments, and fire control in walls and attics of residential and commercial construction.

2. Materials

2.1 More than 85% of the content by weight of AFT Carbon Smart™ cellulose insulation is processed from recycled wood-based cellulose fibers (post-consumer wastepaper). These fibers are chemically treated to create fire resistance. The additives will not irritate normal skin, will not attract vermin or insects, mold-resistant, non-corrosive, and will not adversely affect other building materials. Complies with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976.

3. Functions

3.1 AFT Carbon Smart™ cellulose insulation resists heat flow by 1) trapping air within and 2) between fibers creating significant resistance to air movement. When applied, AFT cellulose insulation creates a “blanket” filling all spaces.

4. Material Characteristics

4.1 Conforms to the Consumer Products Safety Commission (CPSC) standards 16 CFR parts 1209 and 1404 and FTC 16 CFR Part 460 and ASTM C-739. Type II material per ASTM C1149 with dry adhesive. Class 1/A building material.

4.1.1 Density

The density anticipated after long-term settling of dry applications was determined by the following specification: ASTM C-739 1.50 lb/ft³

4.1.2 Thermal Resistance

The average thermal resistance per inch was determined by test method: ASTM C518 (4 inch thick) 3.80 (R-value/inch)

4.1.3 Surface Burning Characteristics

Two surface burning characteristics are evaluated. They are Critical Radiant Flux using ASTM C-970 and Flame Spread using ASTM E-84. AFT meets or exceeds the requirements for these tests.

ASTM E-970 Greater than 0.12 watts/cm²

ASTM E-84 5 (Maximum per building code is 25)

4.1.4 **Smoke Developed Index** ASTM E-84: 10
(Maximum per building code is 450)

4.1.5 Moisture Vapor Sorption

AFT meets the ASTM C-739 requirement of less than 15% maximum weight gain. Normal relative humidity variations will not adversely affect the insulation.

4.1.6 Non-Corrosiveness

When in contact with steel, copper, and aluminum, AFT was determined to be non-corrosive per ASTM C739.

4.1.7 Other Properties Tested Per ASTM C739

Odor Emission • Smolder Resistance • Fungi Resistance

4.2 Standards

Meets the standards of CPSC, ASTM C739 and all relevant ICC codes.

4.3 Building Codes

Meets the requirements of thermal insulating products in the International Building Code (IBC), International Residential Code (IRC), and International Energy Conservation Code (IECC) published by International Code Council (ICC).

4.4 Fire Blocking / Fire Stopping

In wall cavities, AFT insulation is permitted as a fire block under Section 718.2 of the IBC when installed to a minimum depth of 14.5 inches. IBC Section 714.4 permits as a fire stop.

4.5 Sound Transmission

The installed density of any cellulose insulation creates a noise control “blanket”. Effective sound control requires wall and ceiling systems to be air tight including perimeter to prevent sound flanking. Refer to Section III of GA-600-2018 Fire Resistance Design Manual (22nd Ed.) Insulation materials add 3 to 5 db of noticeable sound resistance to uninsulated walls.

4.6 Fire Walls

AFT cellulose insulation can be used in a one-hour fire wall per Section 722.6 of the IBC and a two-hour fire wall (ASTM E-119) tested at Intertek Testing Services NA. Use “AFT Fire Shield” for two-hour fire wall.

5. Low VOC / Formaldehyde

VOC ≤ ½ chronic REL and formaldehyde ≤ 9.0 µg/m³ per California DPH/EHLB standards.

6. Product Certification

Product certification is by a non-affiliated third party NVLAP accredited laboratory,

7. Installation

Installation to follow the Cellulose Insulation Manufacturers Association (CIMA) technical bulletins #2 “Standard Practice for Installing Cellulose Building Insulation”, #3 “Standard Practice for the Installation of Sprayed Cellulosic Wall Cavity Insulation, and ASTM C1015 “Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation. Follow local, state, and federal building codes.



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