

Cotton Armor: Specifications

1: Scope

This document covers the composition and physical properties of Applegate's Cotton Armor Blanket Insulation. This information is relevant to the specification of Applegate's Cotton Armor Insulation in ceilings, attics, walls, floors and other uses. Cotton Armor insulation delivers superb R-value per inch, and excellent sound control qualities.

2: Components

Cotton Armor insulation contains 85% recycled content, and is primarily composed of cotton. A proprietary fire retardant penetrates and strengthens the fibers while providing permanent flame resistance. When installed properly and under normal conditions of use, these materials are nontoxic to humans and will not adversely affect other building components. See product installation instructions for details on its use.

3: Purpose

3.1: Thermal Insulation

Cotton Armor insulation helps buildings stay warmer in the winter and cooler in the summer by effectively controlling all 3 methods of heat transfer: convective, conductive and radiant, helping your home be more comfortable and lowering your heating and cooling bills.

3.2: Acoustical Insulation

Cotton Armor insulation provides superior sound attenuation to conventional batts, in large part, because it is press fit and has a strong rebound. Both the press fit and strong rebound help to ensure a better seal of the building envelope that minimizes the acoustical shortcuts that are created by less rigid batt insulations. The rebound allows Applegate's Cotton Armor to fill gaps and voids in odd shaped cavities and around obstacles such as plumbing, air ducts and wiring.

4: Performance Standards

Cotton Armor insulation conforms to the requirements of ASTM Standard C-739 and is third-party tested.

4.1: Thermal Resistance

Thermal resistance R-values up to R-4.1 per inch calculated using ASTM C-518 at 1 inch.

4.2: Non-Corrosive

Cotton Armor is non-corrosive in accordance with ASTM Standard C-739. The test regimen includes aluminum, copper and steel.



Cotton Armor does not itch, contain fiberglass, formaldehyde or other materials associated with increased health concerns.

Cut Cotton Armor using a utility knife, or rip it with your hands. You can cut it across or tear from top to bottom at any point, giving you a truly custom fit to your measurements—easy!

4.3: Fire Safety

Cotton Armor meets or exceeds all necessary fire safety requirements conducted in accordance with ASTM standards:

- E-84
- Flame spread 15 (class A)
- Smoke developed 40 (class A)
- Smoldering Combustion: ≤15%

4.4: Moisture Absorption

Cotton Armor has less than 15% weight gain under test conditions per ASTM Standard C-739. Normal relative humidity variations do not adversely affect the insulation.

4.5: Health and Indoor Air Quality

Cotton Armor does not contain fiberglass, formaldehyde or other materials associated with increased health concerns.

- OSHA or CAL OSHA carcinogen warning? : No
- Contains respirable glass fibers? : No
- Contains formaldehyde? : No
- Itch? : No

4.6: Other Properties

Cotton Armor passed ASTM C-739 tests for odor emission and fungi growth.

4.7: Sound Control

Cotton Armor is an excellent choice for reducing sound transmission through walls, ceilings and floors. The following Sound Transmission Class (STC) ratings demonstrate its effectiveness in attenuating noise. The higher the STC number, the greater the reduction in sound:

- R-21 Cotton Armor insulated wall: 54 STC
- R-19 Cotton Armor insulated wall: 53 STC
- R-13 Cotton Armor insulated wall: 52 STC

(Above STC ratings were calculated according to ASTM E-90 testing for sound transmission loss in 24" o.c. steel stud walls and one 5/8" inch layer of type X gypsum on each side.)

For party walls:

- R-19 Cotton Armor insulated wall: 59 STC
with two layers of Cotton Armor: 62 STC
- R-13 Cotton Armor insulated wall: 57 STC
with two layers of Cotton Armor: 60 STC

(Party Wall STC ratings were calculated according to ASTM E-90 testing for sound transmission loss in double 24" o.c. wood stud walls with one 5/8" inch layer type X gypsum on each side.)



And he hath put a new song in my mouth, even praise unto our God: many shall see it, and fear, and shall trust in the LORD.
— Psalm 40:3

PROTECTING YOUR
HEALTH AND COMFORT
WHILE SAVING ENERGY

