

Recycled Cotton Acoustical Insulation for Best in Class: R-Value, \$-Value, Health and Environmental Safety

Available at: Eco-Building Products, Inc
www.Eco-BuildingProducts.com
Sales@Eco-BuildingProducts.com
231.399.0700

Product Overview

In yesteryear, batt insulations were itchy, hard to size and install properly and thermal performance was often lacking. Applegate Insulation pioneered the world's first engineered hybrid insulating and acoustical blanket insulation—Cotton Armor. Combining man's first fiber friend, cotton, with revolutionary 21st century BurnBarrier fire retardant and fiber processing technology makes Cotton Armor the world's foremost energy saving hybrid.

Applegate started as an insulation contractor back in the 50's and saw the numerous issues that yesteryears batt insulations caused for homeowners. We received many call-backs for drafty and noisy rooms, higher than anticipated energy costs and moisture problems related to old-fashioned batt insulations. From those experiences we realized that insulation installers and homeowners needed a better insulation—this need birthed Cotton Armor.

Key Benefits:

- Top thermal performance: save energy and energy dollars.
- Superb health and air quality. Safe to touch, breathe and live with.
- Easy to install and does not itch.
- Superior sound control: 52–62 STC.
- Up to 11 LEED credits.
- Made 85% recycled content and contains cotton — creating an insulation as comfortable as your favorite pair of jeans.



Don't make a mistake! Make the naturally safe choice with Cotton Armor insulation.



Fast, Safe, Easy Installs

Safe & Easy to Install:

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!

How Green?

In a Life Cycle Analysis, Applegate's Cotton Armor was found to be 54% more energy efficient* in production than fiberglass. This is due to the use of recycled renewable resources, and application of modern, energy-efficient electrical equipment, rather than the blast furnaces utilized in fiberglass manufacturing. Cotton Armor production was also found to result in less than 53% CO² equivalent (Kilograms of CO² and other gasses) and 29% less water than fiberglass manufacturing.

Sustainability:

By making use of natural fibers as opposed to overly manufactured man-made materials, Cotton Armor is the demonstrated choice for a sustainable and environmentally friendly insulation—saving both raw materials and energy through the use of recycled cotton. Cotton is harvested annually, and thus considered a rapidly renewable resource—this enhances Cotton Armor's ecological sustainability over other insulations. The production of cotton naturally harnesses the power of the sun, lowering its environmental impact compared to fossil fuel dependent insulations.

*Source: Life Cycle Analysis for Recycled Cotton Insulation
To request a copy of the Life Cycle Analysis :
<http://www.applegatecottonarmor.com/sustainability.php>

ACOUSTICAL & THERMAL
COTTON ARMOR[™]
Cotton Insulation



Just like a blanket to work with, the fiber composition makes for easy tearing and cutting. It's easily sized for hard to reach places.

Quick Specs:

- Sound deadening with up to 60+ STC ratings
- Contains minimum of 85% recycled content
- Up to 3.9 R-value per inch
- Up to 11 LEEDs credits
- No harmful VOCs
- Passes ASTM fungi resistance test
- Passes ASTM moisture absorption test
- Passes ASTM corrosion test
- Passes ASTM Class A building material fire rating

The earth is the LORD's, and the fullness thereof; the world, and they that dwell therein.
– Psalm 24:1

1: Scope

This specification provides information relevant to the installation of Applegate's Cotton Armor insulation in attics, walls and floors. Cotton Armor insulation delivers superb R-value per inch, and excellent sound control qualities.

2: Components

Cotton Armor blanket insulation contain 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.

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-3.9 per inch calculated using ASTM C-518.

4.2: Non-Corrosive

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



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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 complies with ASTM Standards that require less than 15% weight gain under test conditions. 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 passes 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 be bath 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

