SECTION 072100 - BUILDING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Cotton fiber insulation.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for insulation products.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Cotton Fiber Insulation:
   1. UltraTouch Denim Insulation by Acoustical Surfaces, Inc. (Basis of Design)
      a. 123 Columbia Court North, Suite 201, Chaska, MN 55318.
      b. 952-448-5300, Fax: 952-448-2613.
      c. Toll Free: 1-800-448-3134.
   2. Or equal.

2.2 COTTON FIBER INSULATION

A. Product: UltraTouch Denim Insulation.

1. Construction: Made from high quality natural fibers. These fibers contain inherent qualities that provide for extremely effective sound absorption and maximum thermal performance.
2. Contains 80% post-consumer recycled natural fibers.
3. Ultrasonic Sound Absorption Test per ASTM C423:
    a. 3" thick: 1.15 NRC.
    b. 5" thick: 1.15 NRC.
4. Thermal Performance:
    a. UTR1316: R-13.
    b. UTR1324: R-13.
    c. UTR1916: R-19.
    d. UTR1924: R-19.
    e. UTR2116: R-21.
    f. UTR2124: R-21.
    g. UTR3016: R-30.
    h. UTR3024: R-30.
5. Flammability Testing: Class A.
    a. Flame Spread Index: 5.
    b. Smoke Developed Value: 35.
6. Performance:
    a. Does not itch and is easy to handle.
    b. Manufactured in oversized widths to ensure a tight friction fit and fill capacity.
    c. Maximum R-value performance.
    d. Class-A Building material that meets or exceeds ASTM testing for both commercial and residential batt insulation.
    e. Patented proprietary process treats each individual fiber with a boron-based fire retardant. This treatment not only acts as a superior fire retardant but also impedes the growth of fungus, mold, and resists pests.
    f. Patented manufacturing technology creates a three dimensional infrastructure that traps, isolates and controls sound waves.
    g. Extremely high Noise Reduction Coefficient to effectively reduce airborne sound transmission including traffic, airplanes, radios, television, and conversation.
7. Health:
    a. Contains no chemical irritants and requires no carcinogenic warning labels compared to other traditional insulation products.
    b. Contains no harmful airborne particulates eliminating health concerns regarding particulates in the surrounding environment.
    c. Contains an EPA registered fungal inhibitor to actively resist the growth of mold, fungi and bacteria.
    d. Passed Environmental Specification 1350 Indoor Air Pollutant testing used for California Public Schools.
8. Environment:
    a. Consists almost entirely of natural denim and cotton fibers that are 100% recyclable, reducing landfill waste.
    b. Requires minimal amount of energy to manufacture aiding the environment with energy conservation and reduction in pollution compared to other types of traditional insulation.
9. Sustainable Attributes: Possible LEED program credits.
    a. Contribute to earning LEED program credits. Below are the categories and prerequisites in the Green Building Rating System where UltraTouch may contribute.

1) Energy & Atmosphere, Prerequisite 2:
   a) Minimum Energy Performance: Compliance with ASHRAE 90.1-1999.
2) Optimize Energy Performance, Credit 2:
   a) Construction Waste Management: Divert 50% or 70%.
3) Materials & Resources, Credit 4.1:
   a) Recycled Content: 10%. Contains 80% post-consumer recycled content by weight.
4) Materials & Resources, Credit 5.1:
   a) Regional Materials: 10%: Project is within 500 mile radius of manufacturer; Chander, Arizona 85248.
5) Materials & Resources, Credit 6:
   a) Rapidly Renewable Resources: Cotton as one of its main material sources.
6) Indoor Environmental Air Quality, Prerequisite 1:
   a) Minimum Air Quality Performance: Contains no harmful irritants or chemicals that can pose respiratory health or VOC concerns.

2.3 ACCESSORIES

A. Wire or Mesh: Steel wire; electroplated, or galvanized; type and size to suit application.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.

3.2 INSTALLATION OF COTTON FIBER INSULATION

A. Insulation is compressed for shipping purposes. Shake prior to installing. This will help accelerate natural rebounding properties of fibers. Depending on climate and environment conditions, full rebound may take several days.

B. Install insulation between studs by simply fitting each batt firmly into place. If building codes require a vapor barrier, it should be applied towards living area. Insulation should fit snugly between framing. In event that construction does not allow batt to friction fit into wall, use staple or nail to secure the top of each batt (or wherever necessary) so product does not fall to bottom of wall cavity.

C. Cut or tear insulation to fit snugly around obstructions such as plumbing, vent lines, and electrical boxes. Use any left over pieces to fill small openings around windows and doors.

D. For exterior walls, most municipalities will require a vapor barrier to be installed. If a vapor barrier is required, use permeable barrier. Permeable barrier will allow walls to “breathe” while still stopping moisture transfer.

E. Walls: Insulation are friction fit product. They are slightly oversized for standard wall cavities. To install, merely insert the batt between studding and tuck it in to ensure a tight fit. Approximately 30% of batt's in each bag are perforated for easy tearing to fit “off-size” cavities.

F. Ceilings: Insulation can be layered to achieve higher R-Values in ceiling applications. Alternate direction of batt’s in each layer. Insulation can be secured to joists using either wire or a mesh. Ensure batt's remain in place until drywall has been installed.

G. Floors/Crawl Spaces: Secure insulation to floor joists or crawl space cavities in same manner as ceiling applications, using either mesh or wire support system. For crawlspaces specifically, a system of vapor barriers is recommended. The bare ground should be covered with barrier as well as applied to cavities before insulation is installed.

END OF SECTION 072100