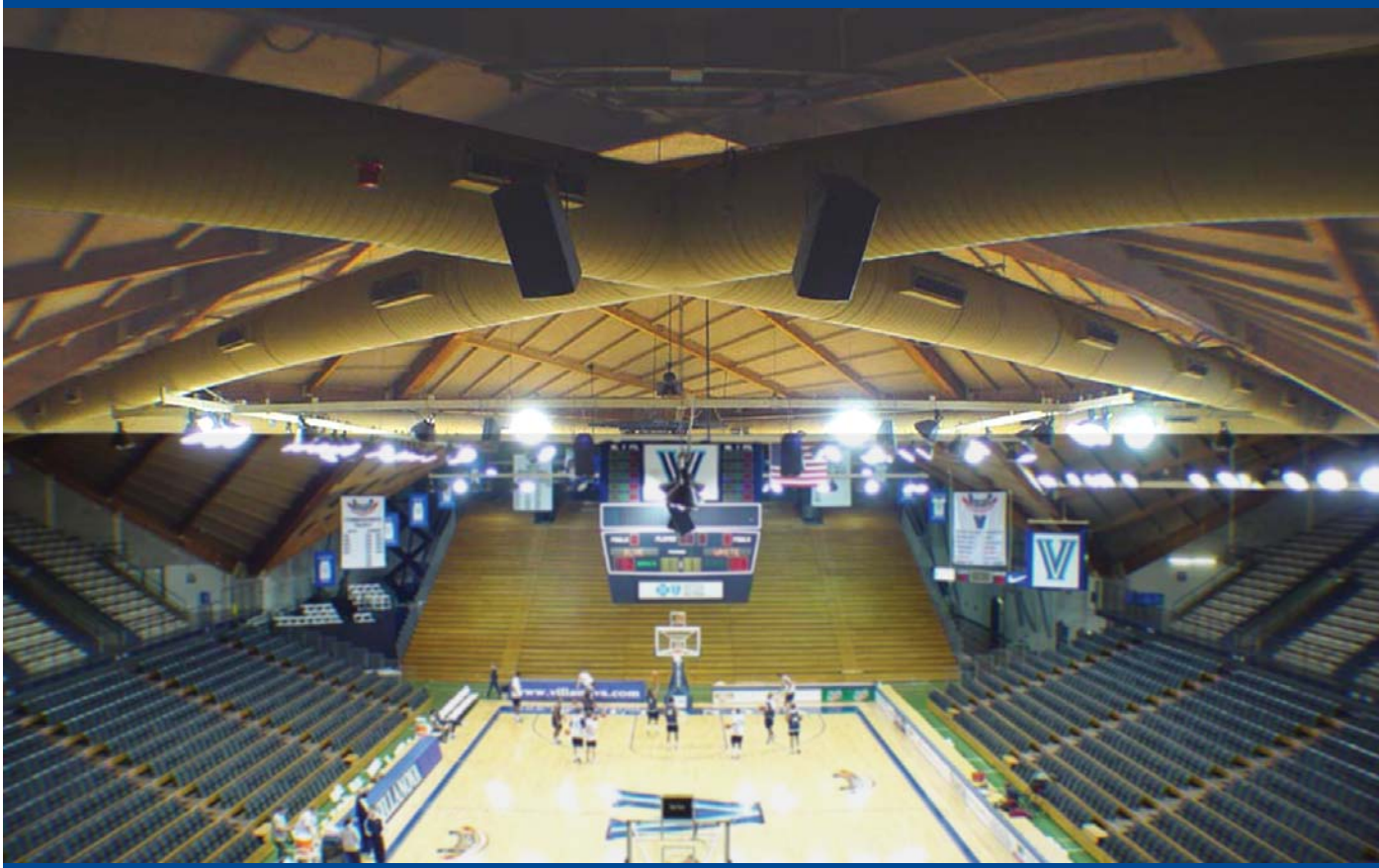


# PROJECT DESIGN SOLUTIONS SPORTS ARENAS



## PROJECT

Villanova University Pavilion  
Villanova, PA

## DETAILS

Tan K-13®  
2" Thickness  
50,000 Square Feet

Villanova Pavilion is primarily used for the University of Villanova basketball games. However, many special events are also held at the pavilion, including concerts and masses. The acoustically reflective hardwood flooring and wooden plank ceiling made speech and music unintelligible. Additionally, the ventilation system added to the overall noise of the pavilion. The combination of excessive reverberation and constant background noise from the

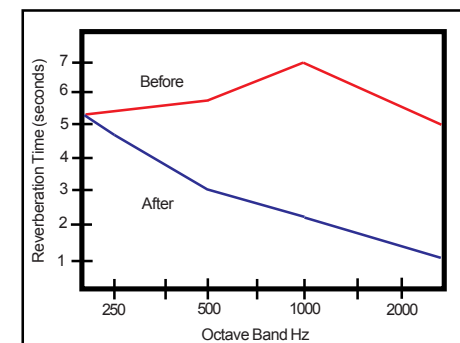
ventilation system motivated University officials to contact Ostergaard Acoustical Associates. Ostergaard Acoustical Associates performed an acoustical analysis of the pavilion in November 2001. Analysis of the data generated suggested an acoustical absorption material needed to be installed over the entire ceiling area.

Acoustic baffles, tiles and K-13 were considered for the project. However, K-13 tan was chosen for its high NRC values and because it would blend into the ceiling and not interfere with the beauty of the wood. K-13's uniform monolithic coating met the recommendations of Ostergaard Acoustical Associates and reduced the reverberation in the pavilion and made the constant noise from the ventilation system less noticeable.

The installation of K-13 acoustical treatment was successful in reducing

reverberation time and improving the acoustics in the pavilion. The reduced reverberation time resulted in greatly improved speech intelligibility and audio quality.

The chart below depicts measurements taken before and after the installation of K-13. For more information on this project or a similar application call **800-444-1252** or visit [spray-on.com](http://spray-on.com)



**PARTIAL LIST OF  
SIMILAR PROJECTS**

ATLANTA HAWKS SPORTS STADIUM  
ATLANTA, GA

COWBOY TOWN ARENA  
ALEXANDRIA, LA

FARGO ARENA  
FARGO, ND

HAMBURG ICE SKATING RINK  
HAMBURG, NY

TAMPA BAY LIGHTNING HOCKEY ARENA  
TAMPA, FL

INDIANA PACERS ARENA  
INDIANAPOLIS, IN

KENDALL ICE ARENA  
KENDALL, FL

LAREDO ARENA  
LAREDO, TX

LOUISIANA STATE UNIVERSITY  
BATON ROUGE, LA

MEMORIAL COLISEUM  
FORT WAYNE, IN

NASHVILLE DOWNTOWN ARENA  
NASHVILLE, TN

NEW JERSEY NETS ARENA  
EAST RUTHERFORD, NJ

NEW ORLEANS ARENA  
NEW ORLEANS, LA

REED ARENA  
COLLEGE STATION, TX

STAPLES CENTER  
LOS ANGELES, CA

TAMPA ARENA  
TAMPA, FL

TIMMONS ARENA  
GREENVILLE, SC

UTAL JAZZ PRACTICE FACILITY  
SALT LAKE CITY, UT

VERIZON MEGA CENTER AT HAMILTON  
HAMILTON, NJ

VERIZON MEGA CENTER AT PITTSBURGH  
PITTSBURGH, PA

WILD ARENA  
SAINT PAUL, MN

**K-13® Spray On Systems  
Thermal and Acoustical Insulation  
Specification Guide**

**PART 1 - GENERAL**

**1.01 Work Included:**

- A. The work to be performed under this section shall include all materials, equipment, labor and services required to install the sprayed cellulose fiber in accordance with these specifications and as indicated on the drawings if applicable.
- B. A representative surface of not less than 100 square feet shall be sprayed and approved by the Architect and/or Owner prior to proceeding.

**1.02 Related Work:**

- A. Clips, hangers, supports, sleeves and other attachments to spray bases are to be placed by other trades prior to the application of sprayed insulation.
- B. Ducts, piping, conduit or other suspended equipment shall not be positioned until after the application of sprayed insulation.

**1.03 Systems Description/Quality Assurance:**

- A. Contractor must use a total system, encompassing equipment, fiber and adhesive as supplied and tested by the manufacturer. No substitution may be made.
- B. Fibers supplied under this specification shall have each bag coded with the date and lot number of manufacture, and retained samples shall be kept by the manufacturer for not less than one year.
- C. Contractor must be licensed and trained by the manufacturer.

**1.04 Submittals:**

- A. Submit product data and manufacturer's certificate that the product meets or exceeds specified requirements.
- B. Manufacturer's written certification that product contains no asbestos, fiberglass or other man made mineral fibers.

**1.05 Product Delivery, Storage and Handling:**

- A. Materials shall be delivered in original, unopened containers bearing name of manufacturer, product identification and reference to U.L. testing.
- B. Store materials off ground, under cover and away from damp surfaces and keep material dry at all times.
- C. Protect liquid adhesive from freezing.

**PART 2 - PRODUCTS**

**2.01 Acceptable Manufacturers:**

- A. International Cellulose Corporation  
12315 Robin Boulevard  
Houston, Texas 77045  
(713) 433-6701 or (800) 444-1252 FAX: (713) 433-2029

**2.02 Materials:**

- A. K-13 Spray-On-Systems.
  - 1. Color shall be as indicated in Schedule 3.03. [Color selection will affect price]
  - 2. Thermal Resistance values [if applicable]:  
Apply at minimum thickness to provide an R-value as indicated in Schedule 3.03
  - 3. Field tested bond strength report per ASTM E-736.  
Tested @ > 5 years  
Not less than 400 psf  
Not less than 600 times its weight @ 1"

- 4. The sprayed insulation must have been tested in sprayed form by U.L. and have each bag labeled with the reference to U.L. test results according to ASTM E-84/U.L.723:

Tested at a minimum of 5" thickness, Class 1  
Flame Spread Not To Exceed 5  
Smoke Development Not To Exceed 5

- 5. Fire Endurance rating greater than or equal to 45 minutes per ULC S101-M89 and British Columbia Building Code 3.1.4.7(3)(B). Minimum thickness 2 1/2"
- 6. The sprayed insulation must meet appropriate Building Code Requirements.
- 7. The sprayed insulation must meet ASTM E-1042
- 8. NRC rating [if applicable]:  
Install at a minimum thickness to achieve a NRC rating as indicated in Schedule 3.03
- 9. Noncorrosive per UMB-80.
- 10. Bond Deflection per ASTM E-759.  
6" Deflection in 10' Span-No Spalling or Delamination
- 11. Cohesive Strength at time of application per Method WS-2000: >700 Grams

**PART 3 - EXECUTION**

**3.01 Inspection-Preparation-Installation:**

- A. The installing contractor shall examine all surfaces and report all unsatisfactory conditions in writing to the General Contractor and Architect. The work shall not proceed until unsatisfactory conditions are corrected.
- B. Provide masking, drop cloths or other satisfactory coverings for all materials/surfaces which are not to receive insulation so as to prevent damage from overspray.
- C. Surfaces to receive spray insulation shall be inspected prior to application to determine if priming/sealing is required to insure bonding and/or to prevent discoloration caused by migratory stains. Prime accordingly.
- D. Installed thickness will be determined as the minimum thickness measured as per ASTM E-605 field test procedure. Thickness(es) shall be as listed in section 3.03 or as indicated on the drawings.
- E. The work shall be coordinated with other trades whose work may be affected or have an effect on the installation of the sprayed cellulose fiber.
- F. Installation, clean-up and curing shall be accomplished according to the manufacturers' recommendations and common construction standards.
- G. Provide natural or mechanical ventilation continuously to properly cure the insulation.

**3.02 Protection:**

- A. Protect finished installation under provision of section 01500 and 01535.

**3.03 Schedule:**

- A. Provide a schedule when insulation requires listing by color, insulation value, NRC values and other attributes.



12315 ROBIN BLVD.  
HOUSTON, TX 77045  
800/444-1252  
713/433-6701  
713/433-2029 (FAX)

[www.spray-on.com](http://www.spray-on.com) (Internet)  
[icc@spray-on.com](mailto:icc@spray-on.com) (E-mail)

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**Professionally installed by:**



Minimum 80% recycled content