



Facts About Using Sealants in Fiber Glass Air Handling Systems

Information from NAIMA

Introduction

HVAC systems are often a focal point in the investigation of buildings with Indoor Air Quality problems. In such cases, an assessment is made of the performance and conditions of all HVAC system components including the materials that are exposed to the airstream surface.

An assessment may find physical damage or excessive contamination present on the airstream surface of the fiber glass duct liner or duct board. If this is the case, then remediation is required.

Keep in mind that duct liner or duct board materials as supplied by the manufacturer meet strict UL, NFPA and ASTM standards. As a result, they are not required to have sealants or encapsulants applied to the airstream surface by either fabricators or installers.

A sealant should only be used if the damage to the airstream surface is small and localized.

Sanitizers and Biocides

The U.S. Environmental Protection Agency (EPA) regulates the use of sanitizers or

biocides inside ducts that either kill or inhibit microbial growth. NAIMA recommends that building owners or managers who are considering the application of sanitizers or biocides be aware of a number of issues related to their use in HVAC systems.

Please refer to the EPA website: www.epa.gov/iaq/pubs/airduct.html for specific information on this issue. An excerpt from the EPA website is contained in Table 1 (page 2).

Compatibility

If it has been determined that the damage or contaminated surface can be remediated by the application of a sealant, care should be taken to assure that the sealant is compatible with the coating or facing materials used by the manufacturers to protect the airstream surface of the duct liner or duct board materials. Consult the insulation manufacturer to assure that the sealant is compatible with the insulation material.

Also, the selected sealant needs to meet the building codes, and be handled and installed following the applica-

tion and safety recommendation provided by the manufacturer. Other important information, such as longevity and durability should be discussed with the manufacturer.

Installation and Application

For a sealant to be effective, it is important that it be applied correctly. The manufacturer of the sealant should be consulted for their installation recommendation. The information should include the application steps required to achieve the coverage needed for the sealant to be effective.

Direct application of the sealant to the damaged surface has been determined to be the only effective way to achieve complete coverage of the damaged area. Spraying a sealant into the airstream will not provide the needed coverage to the damaged surface.

Summary

The use of a sealant is only recommended for the remediation of localized damage of the airstream surface of duct liners or duct board materials. The use of a sealant as a preventive measure over the airstream surface of these materials is unnecessary.

For information on the cleaning of insulated duct systems, please refer to the NAIMA publication AH 122, titled "Cleaning Fibrous Glass Insulated Air Duct Systems."

Building owners and managers who are considering the use of sanitizers or biocides in the HVAC system should consult the EPA.

NAIMA is the trade association for North American manufacturers of fiber glass, rock wool and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool and slag wool insulation as well as encourage safe production and use of these materials.

In May, 1999, NAIMA began implementing a comprehensive voluntary work practice partnership with the U.S. Occupational Safety and Health Administration (OSHA). The program, known as the Health and Safety Partnership Program, or HSPP, promotes the safe handling and use of insulation materials and incorporates education and training for the manufacture, fabrication, installation and removal of fiber glass, rock wool and slag wool insulation products. For more information about the HSPP, visit NAIMA's web site at www.naima.org or contact NAIMA.

The Air Handling Committee of NAIMA provides information about indoor air quality as it pertains to its members' products.

For more information, contact:

NAIMA
44 Canal Center Plaza, Suite 310
Alexandria, Virginia 22314
Tel: 703/684-0084
Fax: 703/684-0427
E-mail: insulation@naima.org
Website: <http://www.naima.org>

NAIMA AIR HANDLING COMMITTEE MEMBERS:

CertainTeed Corporation
P.O. Box 860
Valley Forge, PA 19482
800/233-8990

Johns Manville
P.O. Box 5108
Denver, CO 80217-5108
800/654-3103

Knauf Fiber Glass
One Knauf Drive
Shelbyville, IN 46176
800/825-4434

Owens Corning
One Owens Corning Parkway
Toledo, OH 43659
800/GET-PINK

Table 1: Excerpt from EPA Website (see "Unresolved Issues of Duct Cleaning")

Should chemical biocides be applied to the inside of air ducts?

Chemical biocides are regulated by EPA under Federal pesticide law. A product must be registered by EPA for a specific use before it can be legally used for that purpose. The specific use(s) must appear on the pesticide (e.g. biocide) label, along with other important information. It is a violation of federal law to use a pesticide product in any manner inconsistent with the label directions.

A small number of products are currently registered by EPA specifically for use on the inside of bare sheet metal air ducts. A number of products are also registered for use as sanitizers on hard surfaces, which could include the interior of bare sheet metal ducts. While many such products may be used legally inside of unlined ducts if all label directions are followed, some of the directions on the label may be inappropriate for use in ducts. For example, if the directions indicate "rinse with water," the added moisture could stimulate mold growth.

All of the products discussed above are registered solely for the purpose of sanitizing the smooth surfaces of unlined (bare) sheet metal ducts. No products are currently registered as biocides for use on fiber glass duct board or fiber glass lined ducts, so it is important to determine if sections of your system contain these materials before permitting the application of any biocide.