



SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.

## Technical Resources Bulletin

July 31, 2009

TRB #9-09

To: SMACNA Members  
From: Technical Resources Department  
Subject: **UPDATE** on HVAC Duct Sealant Usage Requirements on USGBC LEED® Projects

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The following bulletin is an update to TRB #4-09 issued March 27, 2009 with the Subject: HVAC Duct Sealant Usage Requirements on USGBC LEED® Projects.

In response to the following Credit Interpretation Request (CIR): **“How does a project team classify duct sealants for application under EQc4.1?”** the USGBC issued the following ruling: **“Project teams may classify duct sealants under “Other”, as listed in the SCAQMD VOC Limits table.”**

The category of “Other” in the SCAQMD VOC Limits table has a maximum limit of 420 g/l. This should allow most if not all duct sealants to be utilized on LEED® projects, and permit the proper sealing of ductwork at temperatures below 40°F (5°C).

In keeping with SMACNA’s policy on sustainability, contractors are encouraged to use products with the least environmental impact for the intended application and jobsite conditions.



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TRB #4-09

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Subject: HVAC Duct Sealant Usage Requirements on USGBC LEED® Projects

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The purpose of this bulletin is to clarify the use of duct sealant for United States Green Building Council (USGBC) LEED® projects and describe the current sealant usage requirements and typical issues associated with those requirements.

When addressing duct sealant, LEED® references South Coast Air Quality Management District (SCAQMD) Rule 1168. HVAC duct sealer is not specifically addressed or categorized in Rule 1168, and that has led to some confusion.

SMACNA contacted SCAQMD to determine which category under Rule 1168 covers HVAC duct sealant. SCAQMD stated that they consider HVAC duct sealant to be an "Architectural" sealant, which limits the VOCs to 250 g/l, and not part of the "Other" category which allows a VOC limit of 420 g/l. Sealants compliant with the 250 g/l VOC restriction tend to be water-based. Use of these sealants pose a significant performance issue for contractors when temperatures go below 40°F (5°C), particularly in new construction when ductwork is installed in unenclosed buildings. These sealants cannot be applied at temperatures at or below 40°F (5°C) nor can they be exposed to temperatures below 40°F (5°C) until the product fully cures, typically 24-48 hours. The sealants that can be applied at temperatures below 40°F (5°C) are solvent-based and typically have VOC levels around 300 g/l. This makes them unacceptable per LEED® requirements since LEED® classifies them as an "Architectural" sealant with VOC limits of 250 g/l. Therein lies the problem for contractors: use a LEED®-compliant sealant and have the sealant fail or use a sealant that works, but will not meet LEED® requirements.



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SCAQMD staff informed SMACNA technical staff that use during low temperatures, i.e., below freezing levels, was not considered as ambient temperatures in the SCAQMD region (San Diego/Los Angeles, CA) are mild and low temperature applications are rarely a concern. When the USGBC incorporated Rule 1168 into LEED®, they did so without exception or consideration for the various climates throughout the world. Unfortunately, in much of the United States temperatures regularly go below 40°F (5°C) for several months to half a year.

SMACNA is attempting to resolve the issue by petitioning the USGBC to correctly classify HVAC duct sealant in the proper category of “Other”.

In the interim, SMACNA recommends that you specifically seek exclusion of this requirement for HVAC duct sealant as it is currently misclassified for LEED® projects by the USGBC. Alternatively, you may wish to determine if it is practical and cost effective to use the VOC Budget approach in LEED-NCv2.2®. This alternative requires an overall assessment of all potential sealants and adhesives being utilized on the project by all other trades.

SMACNA’s investigation revealed that there are HVAC duct sealants available that use acetone as the solvent, making them a zero “reportable” VOC HVAC duct sealant, and therefore technically compliant with LEED®. Reportedly, these perform in lower temperature applications. Make sure to review the products’ MSDS sheets to verify that the solvent used is acetone. Acetone should be the only solvent listed for “zero VOC” sealants. You should also check with your safety director in regard to any possible OSHA requirements regarding the use of acetone-containing products.

Although the above suggestions may mitigate issues with current LEED® requirements, SMACNA understands the core issue regarding the misclassification of HVAC duct sealant still needs to be resolved. We will continue to work with the USGBC and provide updates until this issue is resolved in a technically sufficient manner.