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Technical Papers/Guidelines

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Compressed files containing the 570 individual Symbols found in the SMACNA CAD Standard, 2nd edition, are available for download. One contains the full set of Symbols in DWG format, mainly for use by AutoCAD® systems; and the other, in DXF format suitable for use by all other drafting systems.

In addition to the symbol files the SMACNA CAD Standard, located further down on this page, must also be downloaded for a complete description and listing of the symbols package.

[SMACNA CAD Symbols - DWG Format](#)

[SMACNA CAD Symbols - DXF Format](#)

[Air Duct Leakage HVAC 2011 Technical Paper \(PDF file\)](#)

SMACNA published the HVAC Air Duct Leakage Test Manual in conjunction with the SMACNA HVAC Duct Construction Standards. Research proved that duct leakage could be well defined as a function of the static pressure and the surface area of the duct. This allowed for the introduction of leakage classes that could be used to calculate and accurately represent the leakage of air from ducts of various sizes and configurations.

[Architectural Fascia and Coping Wind Tests Report \(PDF file\)](#)

SMACNA's Technical Resources Committee, with the guidance of the Architectural Sheet Metal Council Steering Committee, conducted wind testing of custom-fabricated gravel stop fascia and coping designs shown within the SMACNA Architectural Sheet Metal Manual. This report has been updated with copper results (MAY 2009).

[Building Code Update \(PDF file\)](#)

This technical paper reviews the Model Building Code process of the International Code Council (ICC) and National Fire Protection Association (NFPA) Building 5000 Code and addresses SMACNA National's position with regards to the efforts of the code community to develop a single set of comprehensive and coordinated national codes. SMACNA National has long been involved in the code setting process to ensure that the SMACNA Standards currently utilized by the HVAC industry would be included as the basis for duct construction.

[Custom Fabricated Sheet Metal Test Report \(PDF file\)](#)

Achieving uniqueness in building construction should start at the top. When choosing a roofing style, many architects choose custom fabricated metal roofs. SMACNA's Custom Fabricated Sheet Metal Roof Test Report describes the performance of the double lock standing seam and batten seam metal roof conforming to the SMACNA Architectural Sheet Metal Manual. Members are encouraged to provide copies of this paper to building owners and architects, so

that all parties gain a better understanding as to the performance of custom metal roofing.

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[Duct Cleanliness for New Construction Guidelines \(PDF file\)](#)

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This guideline is intended to help the commercial duct installation contractor, design engineers and building owners to become more familiar with guidelines to control and reduce contamination during duct installation, and to provide reasonable installation recommendations that can be implemented to meet these goals.

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[Effects of Imposing A Universal Requirement of G-60 and/or G-90 Coating For A \(PDF file\)](#)

This technical paper reviews the HVAC Duct Construction Standards, 2nd edition, 1995, specifications and requirements for zinc coating on galvanized steel ducts. Paragraph and page references from the HVAC-DCS manual are provided along with the text. Commentary in the form of italicized text has been added to clarify the meaning, scope or intent of the manual. In addition the paper reviews zinc coating thickness variations, as commonly used in trade practice, for sheet, reinforcements, tie rods and fasteners. Also included in the paper are the burdensome effects of imposing a universal requirement of G-60 and/or G-90 coating for all components. Wide distribution of this technical paper in the construction community is encouraged.

[ERRATA for HVAC Duct Construction Standards, 3rd Edition 2005 \(PDF file\)](#)

This technical paper contains ERRATA for the HVAC Duct Construction Standards, Third Edition 2005. The corrections are noted in shading for those cells in the tables affected. Please download and include this listing of corrections with your copy of the manual and reference it as needed.

[ERRATA for the Task Force Page in HVAC Duct Construction Standards, 3rd Edition 2005 \(PDF file\)](#)

This file replaces the current Task Force page in the HVAC Duct Construction Standards – Metal and Flexible, Third Edition. Due to a printing error some of the former committee members were incorrectly identified.

[ERRATA, Guide for Steel Stack Construction, 2nd Edition 1996 \(PDF file\)](#)

This technical paper contains ERRATA for the Guide for Steel Stack Construction, Second Edition 1996. Please download and include this listing of changes/corrections with your copy of the manual and reference it as needed.

[ERRATA, Rectangular Industrial Duct Construction Standards \(PDF file\)](#)

This technical paper contains ERRATA for the Rectangular Industrial Duct Construction Standards, Second Edition 2004. Please download and include this listing of changes with your copy of the manual and reference it as needed.

[HVAC Duct Sealant Usage Requirements on USGBC LEED® Projects - UPDATE \(PDF file\)](#)

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."

[ICC/International Code Adoption \(PDF file\)](#)

This file is an updated (2012) International Code Council (ICC) State Adoption of the I-Codes. SMACNA National has long been involved in the code setting process to ensure that the SMACNA Standards currently being utilized would be included into the Model Building Codes. SMACNA will continue our work with the Model Building Codes and provide future updates concerning code adoptions.

Improper Fire Damper Installation (PDF file)

SMACNA is being increasingly advised that contractors are being required to provide elements of fire damper and combination fire/smoke damper installations which are both unnecessary and not allowed. Specifically we refer to requirements to seal the retaining angles to the wall/floor fire rated assembly and to other directives to fill the expansion space with materials such as mineral wool, ceramic fiber or firestopping caulks. This paper will address these issues individually and clarify these requirements in light of standard installation procedures as required by damper manufacturers. Contractors are encouraged to provide copies of this paper to building owners, architects, engineers and code officials so that all parties gain a better understanding as to the proper and approved methods of fire damper installation.

New Test Standards for Fire, Smoke and Combination Fire/Smoke Dampers (PDF file)

On July 1, 2002, damper manufacturers will be required to provide fire, smoke and combination fire/smoke dampers that are tested to new Underwriters Laboratories (UL) testing requirements. A description and summary of these new test standards and some possible issues resulting from these standards is given in this paper.

SMACNA CAD Standard (PDF file)

As an organization with contributing members on the National CAD Standard (NCS) Committee, SMACNA is committed to improving electronic communication between members of the architect/engineer/contractor (AEC) community, and the overall quality of construction. The "SMACNA CAD Standard," second edition, 2001, articulates in greater detail the CAD standards that will enable SMACNA Contractors, and other members of the AEC community to apply CAD effectively to mechanical, fire protection, and plumbing design and construction. Additionally, the CAD Project Protocol and checklist included as appendices help contractors work in greater harmony with all members of the construction project team and avoid some of the pitfalls that can surprise even the experienced CAD user.

SMACNA Master Index of Technical Publications (PDF file)

The Master Index provides contractors, design professionals, and code officials with a centralized resource of SMACNA technical documents. The index includes key words or phrases from all SMACNA technical standards, manuals and guides.

Technical Guideline on Through Penetration Firestopping (PDF file)

This paper was prepared in response to increasing concerns and lack of understanding of this issue by designers, code officials and contractors. The requirements of the Model Code groups have been identified and the responsibilities of architects, engineers/designers, code officials and contractors have been outlined. The use of this paper will assist contractors in those situations where they are being forced to provide products, which are not adequately specified and detailed on the project plans and specifications and, which were not included in contractors' estimates for the project. This guideline is intended to be a generic educational tool for use by all parties to the construction process. We encourage all members to provide copies of this paper to building owners, architects, engineers and code officials so that all parties gain an understanding as to the requirements of the codes, their respective responsibilities and the technical complexity and costs associated with this issue.