News from the Hill

Central Vacuum Tube and Fittings to be required to conform to New Industry Standards in the Western U.S.A as of January 1, 2006.

An update on the Building Code, and ASTM F2158 activities for the Central Vacuum Cleaning Industry.

History of ASTM F2158.

Following 3 years of commitment to the process of creating an ASTM standard for Central Vacuum Fittings by the major participants in the Central Vacuum Industry, we were pleased to advise you in April 2004, that the American Society for Testing Materials (ASTM) had introduced F2158 a "Standard Specification for Residential Central-Vacuum Tube and Fittings". Revisions to the standard in 2005 are making progress through the ASTM system to include resizing tube dimensions to more reflect real life and improved testing methods for fittings, to ensure they will stand up over time. ASTM F11 group, responsible for Central Vacuums, are also writing a new Installation Practices Standard that will include metal pipe and fittings.

Why was the standard developed?

The main reason for the F2158 standard was to promote the harmonization of Central Vacuum fitting and Tubing sizes so that an installer could use any ASTM manufactured product and know it would fit.
Another reason for the Standard was to help ensure that only fittings manufactured to this standard would be used in a residential installation. In this way Industry could present a consistent dependable quality product to the increasing demand for Central Vacuum Installations and ensure the reputation of Central Vacuums would not suffer because of inconsistent products.

The type of Fittings included are Elbows. Sweep Tee's, 2"couplings and Wyes.
Everything that is between the back of the Mounting Plate, to the inlet of the Power Unit.

It does not include: Inlet Valves, Mounting Plates, Pipe Straps and Accessories.

Compliance Organizations.

To ensure that any manufactured product remains true to its design. Society has accepted the "marks of compliance" from designated Third Party Approval organizations. We see this with electrical products and Underwriter Laboratories (UL®) and Plumbing Products with The National Sanitation Foundation (NSF).
The International Association of Plumbing and Mechanical Officials (IAPMO) while also being a leading Plumbing Third Party Approval Agency will also approve and monitor the quality of manufactured Central Vacuum Tube and Fittings.
IAPMO, are also the authors and administrators of the Uniform Mechanical Code (UMC), the Code that references the requirements for Central Vacuum installations.

Why is this important?

There are three things that the building industry has regarded as very important for many years, product used in building should be manufactured to a standard, Listed and Approved by a third party, and installed in compliance with a Building Code.
The UMC, as of the 2006 Publication, will contain reference to the installation practice for Central Vacuum Cleaning Systems as well as requiring a third Party listing to ASTM F2158. As a result Building Inspectors, in the States where the UMC is in force, will be checking to see if Central Vacuum Fittings and Tubing have the ASTM F2158 mark as well as the IAPMO UMC logo in all new construction. Other Listing Agencies can list Central Vacuum Tube and Fittings to the UMC providing they are approved to do so.

Most jurisdictions in the following states are covered by the Uniform Mechanical Code:

Alaska	Montana	Oregon
Arizona	Nevada	South Dakota
California	Nebraska	Texas
Colorado	New Mexico	Utah
Hawaii	North Dakota	Washington
Idaho	Oklahoma	Wyoming
Kansas		

The UMC Mark (a shield with the letters UMC marked inside) will also give installers confidence that these products can be installed with ease and will perform well for the life of the installation.

What about the Eastern United States and Canada?

The rest of the United States and Canada do not have such a ruling "yet". Efforts were made to have the same requirements included in the International Residential Code (IRC) during recent Code hearings in October of this year. It was thought that it would take another three years for the International Code council (ICC), the administrators of the (IRC), to be convinced to include listing requirements for Central Vacuum Tube and Fittings.

That was until a Memorandum of Understanding was struck between IAPMO and ICC to work towards the harmonization of the UMC and the International Mechanical Code (IMC). It is there intention to blend the two standards together. If that happens there is a very good chance that the Central Vacuum references, already in the 2006 UMC, will be brought over into this new combined document. This will take some time but we will keep you informed as events unfold.
The Canadian Building Code will be addressed in 2006. Presentations for the inclusion of F2158 and Installation requirements will be made to the Canadian Commission on Building and Fire Codes in the first quarter of the year.

Information on Direct Connect Inlet Valves.

The National Electrical Code (NEC) has a reference to Central Vacuum direct connect inlets or valves. In section 422-15 "Central Vacuum Outlet Assemblies", it discusses the fact that the valves must be connected into a branch circuit using the same gage of wire that is in the circuit. It is common practice to use 14Gage and 12gage in a residence, so any connecting wire to the valve should match with the branch it is connected to.
A two (2) wire connection is allowed without a ground because there is no exposed non current carrying metal parts exposed in a Valve Housing, that could become live and cause harm to a resident. Products are approved by Underwriters Laboratories (UL) for the purpose and have UL and Recognized Component markings for the Inspector to examine.
Some jurisdictions have yet to accept these devices, so keeping manufacturers informed about any installation rejections will help them as they work with the Inspectors to satisfy their concerns. Revisions to the NEC to clarify the wording in section 422-15 will be proposed in 2006, following meetings with Inspectors and the NEC Committee responsible for 422-15.

Raising the profile of the Central Vacuum Cleaning Industry with the Building Authorities can only increase the visibility of the product. Sometimes the building inspectors will be a promoter of your product as they learn of the many benefits that Central Vacuum Cleaning has in the home and learn more about the product.
Buildings are getting tighter to conserve energy. Air quality is of great concern. We know that the answer. A properly approved and installed Central Vacuum Cleaning System.

Ralph Guinn.
Product Manager, Vacuum, Codes and Approvals.
Canplas Industries Ltd.