September 20, 2019

Norgas Metering Technologies
9840 Harwood Court
Fairfield, OH 45014
United States

Our Reference: File SV31479 / Project 4789142012

Subject: UL Standard 2043, Fourth Edition, including revisions through July 13, 2018. "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces".

Dear Michael Dick:

This Report summarizes the data developed on the samples you provided which were subjected to the flame test described in UL Standard 2043, Fourth Edition, including revisions through July 13, 2018. Testing was conducted at UL LLC (UL) on September 18, 2019 at our Northbrook testing facility.

The purpose of this test is to determine the rate of heat release and the rate of smoke release of the burning product samples as they relate to the requirements for the fire-resistant and low smoke producing characteristics in accordance with the provisions of the following codes: National electric Code, NFPA 70; International Mechanical Code, NFPA 5000; Standard for the installation of Air Conditioning and Ventilating Systems, NFPA 90A.

GENERAL:

It should be understood that these results apply only to the particular sample submitted for testing. The test results indicated in this Report are not intended to imply Listing, Classification or Recognition of any product or materials.

It is important to understand that authorities having jurisdiction may require that products such as covered by this report, intended for installation in a building plenum, be listed and labeled for such use in accordance with UL2043, based on current model building and electrical codes. Accordingly, you may wish to consider undergoing a Listing program with UL on your product(s) to address this possible need.

The Classification Marking or Listing Mark of UL on the product is the only method provided by UL to identify products that have been produced under its Classification or Listing and Follow-Up Service.

In no event shall UL be responsible to anyone for whatever use or nonuse is made of the information contained in this Report and in no event shall UL, its employees, or its agents incur any obligation or liability for damages, including, but not limited to, consequential damages, arising out of or in connection with the use, or inability to use, the information contained in this Report.

TEST RECORD

SAMPLES:

The product is evaluated is described in Table 1. UL did not witness the production of the test sample nor were we provided with information relative to the formulation or identification of component materials used in the manufacture of the test samples.

Table 1 - Sample Description

Sample Reference	Description
A	Singlemag-Poly-CH

METHOD:

The tests were conducted in accordance with the test procedure described in the standard UL 2043, Fourth Edition, including revisions through July 13, 2018. ("Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces"). This test method is used to determine the heat release rate, smoke release and optical density of the samples. The test samples were positioned and installed in the test enclosure as described in Appendix A.

ACCEPTANCE CRITERIA:

Each product specimen shall have the following properties when tested as described herein:

a) The peak rate of heat release measured during each test shall be 100 kilowatts or less, HRRs.
b) The peak smoke release rate measured during each test shall be 0.21 m^2/s or less, SRRs.
c) The total smoke released (10 minute test duration) shall be 75 m^2 or less, TSR.

Note: The above criteria do not include the contribution of the propane ignition burner.

RESULTS:

The summary of test results is tabulated in Table 2 below. Graphs of heat release rate, smoke release rate, and normalized optical density are given in Appendix B. Pre and post-test photographs for each test are given in Appendix A. In addition, a videotape of each test can be made and provided upon your request.

Table 2 - Test Results

Sample - Test Ref.	Peak Heat Release Rate (kW)	Peak Normalized Optical Density	Average Normalized Optical Density	Peak Smoke Release Rate (m^2/s)	Total Smoke Released (m^2)
A-1	15	0.16	0.03	0.07	14.6
A-2	16	0.18	0.02	0.07	11.6
A-3	14	0.17	0.03	0.07	13.5

Please note that the values in Table 2 above as well as the graphs in Appendix B omit the heat and smoke contribution from the propane ignition burner.

CONCLUSION:

The product, identified by the test sponsor as shown in Table 1 - Sample Description, in the form it was submitted to UL LLC, was evaluated in accordance with the standard UL 2043 and it was found compliant with standard's requirements.

COMPLETION OF INVESTIGATION

Since this completes the anticipated work, we have instructed our Accounting Department to terminate the investigation and invoice you for the charges incurred to date.

If you have any questions, please do not hesitate to contact the undersigned.

Very truly yours

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