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Purpose: This document establishes acceptance criteria for stainless steel flexible multiple leg hose assemblies designed for seismic resistance installations as alternative materials in the 2008 NYC Construction Codes.

Related Code	BC 1613	BC 1707.7	FGC 405
Section(s):	BC 1614	FGC 403	FGC 301.12
	BC 1621	FGC 404	

Subject(s): Stainless steel flexible braided multiple leg hose assemblies.

Background: Section FGC 403.5 does not allow metallic tubing for gas piping systems. However, section FGC 301.12 requires seismic resistance compliance for fuel-gas piping. Therefore, it is the purpose of this bulletin to provide an exception for the use of metallic hose assemblies to satisfy the seismic resistance requirements, provided that such assemblies meet the acceptance criteria established in this bulletin.

Description: A stainless steel flexible multiple leg hose assembly is a flexible pipe loop that is constructed of multiple leg sections on annular corrugated stainless steel hose which will absorb or compensate for pipe movements in all 6 degrees of freedom (three coordinate axes, plus rotation about those axes simultaneously).

Evaluation Scope: 2008 NYC Construction Codes

Evaluation Criteria: Pursuant to AC 28-113, the Office of Technical Certification and Research recognizes stainless steel flexible multiple leg hose assemblies tested, designed and evaluated in accordance with UL 536, "Flexible Metallic Hose"¹. Acceptable products shall be:

1. Listed and labeled as an assembly to UL 536 by an approved agency.
2. Evaluated for the motion capabilities and ability to withstand displacement without failure for seismic requirement of section BC 1621.1 by a registered design professional for a specific installation.

Uses: Stainless steel flexible multiple leg hose assemblies are installed for low pressure flammable and combustible gas piping systems where pipe movement resulting from thermal changes and random seismic shifts can occur in the piping systems. They are designed for accommodating seismic displacements for vertical piping between floors of a building, where pipes pass through or bridge

building seismic joints or building expansion joints. They are also used for horizontal piping across building expansion joints to accommodate the resultant of the drifts of each building unit, or where rigidly supported pipes connect to equipment mounted on vibration isolators.

Conditions of Acceptance:

Stainless steel flexible multiple leg hose assemblies shall be designed and installed for low pressure flammable and combustible gas piping system in accordance with the 2008 NYC Construction Codes and other applicable provisions including but not limited to the following:

A. Design

1. Stainless steel flexible multiple leg hose assemblies shall be designed in accordance with the 2008 NYC Construction Code, manufacturer's recommendation and conditions of the required listing agency.
2. Registered design professional shall design and evaluate the product for motion capabilities and ability to withstand displacement without failure for seismic requirement of section BC 1621.1 for a specific installation.

B. Installation Requirements

1. Stainless steel flexible multiple leg hose assemblies are not considered a substitute for standard pipe or tubing and their use should be limited to applications where flexible connections are required for building movement and seismic considerations. It should not be subjected to torsional, tensile, or excessive bending stresses and should be protected against mechanical injury.
2. Installation requirements shall be in accordance with the manufacturer's instructions, the applicable listing agency, and the conditions of this bulletin.
3. Pursuant to section BC 1704.13, the installation of stainless steel flexible multiple leg hose assemblies shall be subject to special inspection requirements of Chapter 17 of the Building Code and Department Rules covering special inspections. Special Inspectors of stainless steel flexible multiple leg hose assemblies shall:
 - a. Maintain the qualification requirements for the "mechanical systems" category as defined in 1 RCNY section 101-06, Appendix A.
 - b. Have duties and responsibilities in accordance with, but not limited to section BC 1707.7 and the above category.
 - c. Complete the statement of special inspection by referencing this bulletin under the Special Inspection Item for "Alternative Materials" in section 3.0 of the TR1 form.
4. Stainless steel flexible multiple leg hose assemblies shall be listed and labeled as per AC 28-113.4. All shipments and deliveries of materials shall be accompanied by a certificate or label certifying that the materials shipped or delivered are equivalent to those tested and approved.

Referenced Standards:

1. UL 536 - 2003, "Flexible Metallic Hose"