ANSI/AHRI Standard 1271 (SI)

2015 Standard for

Requirements for Seismic Qualification of HVACR Equipment

Approved American National Standard
ANSI

Approved by ANSI on November 6, 2015

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IMPORTANT

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Note:

This standard supersedes the 2013 version.
For I-P ratings, see ANSI/AHRI Standard 1270 (I-P)-2015.

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Section 1. Purpose

1.1 *Purpose.* The purpose of this standard is to define the requirements for seismic qualification of mechanical HVACR Equipment. The 2012 International Building Code® (IBC) includes a number of provisions for seismic design and certification of nonstructural components. These provisions are intended to improve the performance of non-essential and essential nonstructural systems subject to strong ground shaking. Both the IBC and the American Society of Civil Engineers Standard SEI/ASCE 7 (ASCE 7) contain requirements for qualification of Equipment.

Section 2. Scope

2.1 *Scope*. This standard applies to the following Equipment: Fan Coil Units, Unit Ventilators, Air Handling Units, Coils, Air-to-Air Heat Exchangers, Vertical Packaged Air Conditioners and Heat Pumps, Packaged Terminal Equipment, Dehumidifiers, Flow and Contaminant Controls, Furnaces, Humidifiers, Liquid Chillers, Thermal Storage Equipment, Unitary Air Conditioners and Heat Pumps (including Ductless Equipment), and Water-Source Heat Pumps. This standard does not apply to any other products. This standard describes the methods for equipment qualification and the process to determine equipment Seismic Capacity.

The applicability of this standard to equipment not specifically listed in the scope has not been considered.

Section 3. Definitions

All terms in this document shall follow the standard industry definitions in the current edition of ASHRAE Terminology website (https://www.ashrae.org/resources--publications/free-resources/ashrae-terminology) or the International Code Council Evaluation Services (ICC-ES) Acceptance Criteria AC156 (AC156), unless otherwise defined in this section.

3.1 *Active Component.* A component or sub-assembly that is critical to the functional performance of the equipment that includes moving or rotating parts, electrical parts such as switches or relays, or other internal components that are sensitive to earthquake forces.

Examples of Active Components include: fans, variable frequency drives, control panels, and damper assemblies.

3.2 *Active Equipment.* Equipment that contains Active Components.

3.3 *Allowable Stress Design (ASD).* A comparison of the stresses in the connections/elements defined in the Equipment Force-Resisting System (EFRS) determined by analysis from the effects of design loads to the allowable stresses for the material used in the EFRS.

3.4 *Attachments.* The devices or hardware used to secure or restrain the Equipment to the building structure. Attachments or restraints of the Equipment include anchor bolts, welded connections, and mechanical fasteners.

3.5 *Attachment Point.* The point at which the Equipment is connected to the building structure. This connection point is designed to transfer seismic forces between the structure and the Equipment.

3.6 *Certificate of Compliance.* A certificate stating the Seismic Capacity of Equipment determined using methods of this standard.