"Infinity Air Grate"

RAISED ACCESS FLOOR (INSERT INTO) > **Section 10270**

1.03 Design Performance and Certification of Product

A. Provide Infinity Air Grates consisting of modular movable assemblies supported on pedestal understructure thereby forming an accessible under floor cavitiy to accommodate electrical, mechanical, and HVAC service and complying with performance requirements specified. Infinity Air Grates must be interchangeable with each other and with the solid panels adjacent to, and/ or surrounding the air grate panel.

B. Where applicable load testing shall be performed according to "Recommended Test Procedures for Access Flooring "as established by the Ceiling and Interiors Systems Construction Association (CISCA). These procedures shall be used as a guideline when presenting load performance product information..

C. Product test shall be witnessed and certified by an accredited independent engineering and testing laboratory based in the U. S. with a minimum of five (5) years experience testing access floor components in accordance with CISCA test methods.

1.04 Submittals

A. Samples: Submit upon request a sample of the Infinity Air Grate and its engagement to support understructure component.

B. Shop Drawings:
1. Submit drawings indicating locations of the Infinity Air Grate.

C. Certificates:
1. Submit upon request independent testing organization certificates indicating compliance with specified design criteria when tested and reported according to CISCA "Recommended Test Procedures for Access Floors."

1.05 Quality Assurance
A. Tolerances:
1. Manufacturing tolerance:
a. Nominal panel size ± 0.015" or less.
b. Panel flatness ± 0.020" or less.
c. Panel squareness ± 0.015" or less.
d. Panel interchangeability - all panels, except those modified to meet special conditions, shall be interchangeable

PART 2 – PRODUCT/ Infinity Air Grates

2.01 Material

A. Manufacturer: Infinity Air Grate as manufactured and/or sourced through Opstock, Inc., located in Grand Rapids, MI.

   i. Substitutions will be considered, providing design criteria is met or exceeded.

B. Infinity Air Grates shall have a slotted steel top sheet welded to a grid of supporting steel beams and stiffeners. Panel shall have the ability to be top leveled at all four (4) corners for a flush fit to surface material of the adjacent solid panels, and also be equipped with an integrated self retracting lift handle.

C. Air Grate shall be nominal 24" x 24" square, and protected against corrosion by manufacturer's standard durable epoxy powder coat finish.

D. Air Grate Understructure Support Application: (select most appropriate, as required for project requirement)

   i. HOLLOW (OR) FILLED STEEL PANEL SYSTEM- Air Grate shall nest into and be flange supported by a network of rigid grid stringers.

   (OR)

   ii. WOOD CORE PANEL SYSTEM- Air Grate to be directly supported by pedestal head and/or top surface of rigid grid stringers

   (OR)

   iii. STRINGERLESS (HOLLOW / FILLED STEEL OR WOOD CORE) SYSTEM- Air Grate to be directly supported by top of pedestal head only.

E. Panel Finish:

   i. Air Grate finish surface shall be factory applied (static dissipative) durable epoxy powder coat.

   ii. Air Grate shall not exceed 10 ohms electrical resistance when measured from the top edge of the panel, less surface covering, to the support understructure as tested according to NFPA 99 modified.

F. Performance Characteristics:

   i. <u>Concentrated Load:</u> Panel edge shall be designed to withstand static load of 1,500 lb. on one square inch with a top surface deflection not to exceed 0.100", and a permanent set not to exceed 0.010".

   ii. <u>Uniform Load:</u> Panel shall be designed to withstand uniform load of 375 lb. per square foot with a maximum top surface deflection not to exceed 0.040", and a permanent set not to exceed 0.010".

iii. Ultimate Load: Air Grate shall provide a minimum ultimate load (safety factor) capacity of 4,000 lbs. without complete system failure.

iv. Rolling Load: Air Grate shall withstand minimum rolling load of 1,000 lbs. applied through a 3" dia. x 1-13/16" wide caster for 10 cycles over the same path with less than 0.040" top surface permanent set.

v. Impact Load: Air Grate shall withstand a 150 lb. load dropped from 36" onto a one inch square indenter and not result in ultimate system failure.

vi. Fire Safety Factor (combustibility): ASTM E-84: Class 1: Flame Spread of 5 or less and smoke development of 10 or less per NFPA.

G. Air Performance & Dampering:

i. Air Grate shall provide minimum available open area of 55%.

ii. Air Grates shall be equipped with a "Quad Damper" (or approved equal slide damper) that is non- mechanically attached to the standard air grate and can reasonably close off the supply air to occupied above floor area. Air grates with dampers installed shall be surface adjustable and completely interchangeable with surrounding solid panels.

iii. Supply the number of grate panels with or without "Quad Dampers" to meet the required CFM per the specifications and drawings.

3.01 Installation

A. Air Grate locations shall be established from approved shop drawings so mechanical work can be completed without interfering with other trades.

B. Installer is to coordinate with other trades to maintain the integrity of the installed grate panels. All traffic on grate panels shall be controlled by the installer and/ or general contractor.

4.01 Field Quality Control

A. Take random panel from shipment received at construction site and test panel for compliance with stated load criteria if directed by architect/owner.

END OF SECTION