

# DS-38-ST CLEANROOM GASKET SEAL GRID SYSTEM

## SECTION 13 21 13

### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES:**

- A. This section includes DS-38-ST cleanroom gasket seal grid ceiling system product data.
- B. Work of this Section includes the installation of the Cleanroom ceiling grid system, including but not necessarily limited to the following:
  - 1. Aluminum ceiling grid: As specified in this Section.
  - 2. Blank ceiling panels: As specified in this Section.
  - 3. Gasket: As specified in this Section.
  - 4. Threaded rod and turnbuckle: As specified in this Section.
  - 5. Sealing of all penetrations, including sprinklers, electrical conduit, etc.

#### **1.02 RELATED DOCUMENTS/SECTIONS:**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions.
- B. Division 1 Specification sections apply to work of this Section.
- C. Finish Schedule or Finish Legend applies to work of this Section.
- D. Work related to this Section includes the following:
  - 1. Intermediate steel framing: As specified in Division 5.
  - 2. Air filter systems and equipment: As specified in Division 15.
  - 3. Lay-in and/or surface mounted light fixtures: As specified in Division 16.

#### **1.03 REFERENCES:**

- A. GENERAL
  - 1. Comply with applicable requirements of the following, except where more stringent requirements are indicated by building codes.

#### **1.04 DESIGN/PERFORMANCE REQUIREMENTS:**

- A. The assembled completed Ceiling System shall be compatible with the cleanliness level requirements per ISO 14644-1.

#### **1.05 SUBMITTALS:**

- A. Submission must be made within ten (10) working days of the General Contract Award to avoid project delay.
- B. Product Data: Submit Manufacturer's technical data and brochures for each type of specified system required.
- C. Shop Drawings shall show dimensions, sizes, thickness, finishes, joining, attachments, and relationship of adjoining work.
- D. Samples:

1. Submit three (3) samples consisting of 12" pieces of each type of cleanroom grid system and finish as specified, including perimeter molding and accessories.
- E. Certification:
1. Submit certification from Manufacturer of suspension system attesting that products comply with specified requirements, including finish, as specified.
- F. Qualification Data:
1. Firms specified in "Quality Assurance" Article must demonstrate their capabilities and experience by including lists of completed projects with project names and addresses, names and addresses of Architects and owners, and other information specified.

**1.06 QUALITY ASSURANCE:**

- A. Manufacturer: Firm with manufacturing and delivery capacity required for the project, shall have successfully completed at least ten (10) projects within the past five (5) years, utilizing systems, materials, and techniques as herein specified.
- B. Fabricator must own and operate its own manufacturing facilities for all metal components. "Stick Built" or "Kit of Parts Systems" consisting of components from a variety of Manufacturers will not be considered or accepted.
- C. Manufacturer/Fabricator must own and operate its own painting and finishing facility to assure single source responsibility and quality control.

**1.07 PRODUCT DELIVERY, STORAGE AND HANDLING:**

- A. All materials shall be protected during fabrication, shipment, site storage, and erection to prevent damage to the finished work from other trades. Store accessories inside a well-ventilated area, away from uncured concrete and masonry, and protected from the weather, moisture, soiling, abrasion, extreme temperatures, and humidity.

**1.08 SEQUENCING:**

- A. Substitute Products: Alternate proposals for substitute products will not be accepted unless approval is issued in addenda.
- B. Contract Execution: Submittals shall be completed and approved prior to award of subcontract for system components.
- C. Manufacturer's Production Schedule: Sub-contract for the work of this section shall be planned to allow sufficient time for Manufacturer's production and delivery scheduling.

**1.09 WARRANTY:**

- A. Furnish Manufacturer's:
  1. Warranty that materials furnished will perform as specified for a period of not less than one (1) year from date of material shipment when installed in accordance with Manufacturer's recommendations.

**PART 2 - PRODUCTS**

**2.01 MANUFACTURERS:**

- A. Acceptable System: DS-38-ST Gasket Seal Grid System shall be manufactured by Gordon, Inc. For all inquiries contact, Gordon, Inc., 5023 Hazel Jones Road, Bossier City, LA 71111, (800) 747-8954.
- B. The listed Manufacturer shall not be construed as closing specifications to other prospective Manufacturers, but rather as establishing a level of quality in a metal system. Other systems may be submitted for approval, as provided for in the specifications at least ten (10) working days prior to submission of bids. Companies desiring to submit a proposal shall submit all descriptive information of the system proposed including photographs and Shop Drawings of at least three (3) projects similar in detail and scope.

## **2.02 PRODUCT CONSTRUCTION:**

- A. Ceiling Support Materials and Systems:
  - 1. DS-38-ST 2" Gasket Seal Ceiling Grid and Suspension:
    - a. DS-38-ST Gasket Seal Grid – The Grid System shall be manufactured of 2" extruded aluminum alloy 6063-T6 with a 204-R1 etched and clear anodized finish or Cleanroom White antimicrobial powder coat. Grid profile shall have a continuous integral screw boss within the web for attachment of intersection Connectors at any point along the Grid Members, and to facilitate ease of field installation. Cross Tees to have square cut ends to create a fully non-progressive installation. Grid profile has continuous slots in the reinforced flange to receive AMHS suspension clips.
    - b. Gasket – The gasket tape shall be ¼" thick x 5/8" wide black, closed cell PVC. The gaskets shall be factory-applied, with precision cut ends, extended on Grid Members to ensure an airtight seal at all intersections.
  - 2. Suspension System:
    - a. Model G-38 Grid connectors – Heavy duty zinc alloy casting connectors shall be used at Grid intersections and to suspend the Grid System via 3/8-16 Threaded Rods. ¼-20 Philips drive button head cap screws are used to fasten the connectors to the extruded aluminum Grid Members.
    - b. 3/8-16 Threaded Starter Rod and Turnbuckle – ASTM rated RH/LH, 8" long, zinc plated, 3/8-16 Threaded Rod and 6" body zinc plated steel Turnbuckle spaced at 48" centers along the Main Runners.
  - 3. AMHS Suspension Clips:
    - a. Automated Material Handling Devices shall be supported from the WG-38-ST Grid with Gordon's AMHS Suspension Clips that attach to the Grid within the continuous slots of the reinforced flange.
    - b. AMHS Clips can be relocated anywhere in the cleanroom, with no drilling required.
  - 4. Ceiling system shall be level overall within 0.10" and shall be level within 0.062" in any 10'-0" direction.

### **2.03 FINISHES:**

- A. All suspension components visible shall receive a satin clear anodized 200-R1 finish.  
OR
- B. Powder Coating: 5-stage pretreatment, dried-in-place conversion coating, AAMA 2604 super-durable polyester, Cleanroom White antimicrobial powder coating.

### **2.04 FABRICATION:**

- A. Cut the Main Tees and Cross Tees to lengths specified and provide all required accessories as well as gasket for the Grid.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION:**

- A. Examine building structure scheduled to receive cleanroom gasket seal Grid Ceiling System for unevenness or irregularities that would affect quality and execution of work.

### **3.02 PREPARATION:**

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the Manufacturer to achieving the best result for the project conditions.

### **3.03 INSTALLATION:**

- A. General: Coordinate all work with other trades to be performed in or on Ceiling System including light fixtures, HVAC equipment, sprinkler systems, and wall partition systems.
- B. DS-38-ST Grid Installation:
  - 1. Wall Angle Installation:
    - a. Position Wall Angle at proper ceiling height on center of wall using laser leveling tool and attach with fasteners appropriate for existing wall type. Continue installing toward the corners and then around the room until complete. Corners can be field cut with a power miter saw using carbide tipped blade. All joints must fit tight with no gaps.
  - 2. Grid Installation:
    - a. Position Main Tees at 48" or 48 ½", or as required, perpendicular to Wall Angle. Attach threaded rod previously hung by others from steel structure to Turnbuckle and rod attached to Connectors on Grid.
    - b. Connect Cross Tees to Main Tees at 24" or 24 ½", or as required, using G38 connectors.
    - c. Level entire ceiling to within 0.10" overall and/or 0.06" in any 10' length.

- d. Brace Grid for seismic conditions when required by local code. Install in accordance with UBC Standard No. 47 8 and ICBO No. 1461 for aluminum Grid.
- e. Peel backing off overhanging ends on gasket tapes and carefully affix to the Grid Member across the intersection seam and compressing into the gasket tape on the Main Runner. A tight-fitting gasket intersection will assure the most airtight seal.

**3.04 CLEANING:**

- A. Follow Manufacturer's cleaning instructions for specified finish.

**3.05 PROTECTION:**

- A. Procedures: Care should be taken during the remainder of construction to protect DS-38-ST Grid System from damage.
- B. Damage to Finished Work: Finished units shall be without damage. Damage shall be repaired by the Contractor at the expense of the party damaging the material, as in accordance with the contract requirements.

**END OF SECTION**