

# WS20-SS CLEANROOM GEL GRID CEILING SYSTEM

## SECTION 13 21 13

### **PART 1 – GENERAL**

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

- A. This section includes WS20-SS Cleanroom Gel 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. Gel: As specified in this Section.
  - 3. Threaded Starter Rod and Turnbuckle: As specified in this Section.
  - 4. Blank Ceiling Panels: As specified in this Section.

#### **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
  - 2. Air filter systems and equipment
  - 3. Lay-in and/or surface mounted light fixtures

#### **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. Completed Ceiling System shall be capable of providing Cleanroom Classification Rating as required and indicated for area installed.

#### **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: WS-20-SS Gel Seal Grid Ceiling 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 Accessories:
  - 1. WS-20-SS Gel Seal Grid Ceiling System and Suspension Accessories:
    - a. WS-20-SS Gel Seal Grid – The 2” wide Grid Profile shall be extruded aluminum alloy 6063-T6. Exposed surfaces shall have clear anodized or powder coat white finish. Grid Profile shall have a continuous integral screw boss within the web to facilitate ease of field installation. Grid Components shall consist of 12’-0” long Main Tees and 4’ and/or 2’ long WS-20 Series finished to match Grid. Cross Tee ends shall be square cut to provide a fully non-progressive Ceiling System. Grid profile has a ¼-20 continuous screw boss in the room side surface of the main tee, which allows for ease of attachment of fasteners, racks, or teardrop lighting.
    - b. Vinyl Trim Insert – Vinyl Trim Insert provides a secure seal for the ¼-20 continuous screw slot that is located in the room sided surface of the main tee. The Vinyl Trim Insert shall be factory-applied, with extra length on the ends to allow for ends to be cut to length once suspension tees are installed.
  - 2. Suspension Accessories:
    - a. Grid Connectors – Zinc plated 14 Gauge steel connectors shall be used to join Main Tee splice joints, corners, and Grid intersections. All connectors to have a minimum of two ¼”-20 bolts per connector “leg.”
    - b. Threaded Start Rod – Threaded Start Rod to be 9” long, ASTM rated, left/right hand ¼”-20, zinc plated steel. Spacing to be as per load requirements.
    - c. Turnbuckle – Turnbuckle to be 4” long, ASTM rated, left/right hand zin plated. Spacing to be as per load requirements.
  - 3. Ceiling System shall be level overall with 0.10” and shall be level within 0.062” in any 10’-0” direction.
- B. Blank Ceiling Panels:
  - 1. Aluminum Panels – Blank Ceiling Panels shall be of inverted pan design, fabricated of minimum 0.060” thick aluminum and having down-turned knife edges with welded corner seams. Panel dimensions shall be as shown in project

Drawings. Blank Ceiling Panels shall have white powder coat finish to match the Ceiling Grid.

2. Hold Down Clips for Blank Panels to be 2" long extruded aluminum with hole in top for 1/4"-20 x 3/8" long screw. Clip shall be fastened to the threaded web of the Grid.

### **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 gel to pour.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION:**

- A. Examine building structure scheduled to receive WS-20 Gel 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. WS-20-SS Gel Seal Grid Ceiling System 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. **Note: Proper care must be taken to accurately locate the first notch of the perimeter Wall Angle according to dimensions depicted in the project Drawings. The first notch shall serve as a reference for the entire ceiling installation.** 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.
    - b. Optional Perimeter Main Tee and "Z" Trim Installation:  
When utilizing Main Tee extrusions around the perimeter, a

“Z” Trim, furnished by Gordon, Inc., serves to trim the finished Ceiling Grid to the wall. Using a laser leveling device, attach the “Z” Trim to the wall around the entire perimeter. A gasket tape is often applied to form a seal between the “Z” Trim and the wall. It is recommended to apply a bead of owner-approved sealant caulk to fully seal the “Z” Trim to the wall interface. After the “Z” Trim is installed, the perimeter Main Tees are suspended utilizing the threaded Starter Rods and Turnbuckles to draw up the Grid Members so that the downward turned knife edge of the “Z” Trim fits securely in the center of the gel channel.

2. Grid Installation:

- a. Hang 12' long Main Tees at required distance from Wall Angle and then continue hanging at 48" or 48-1/2" on center, or as required. Position 4' Cross Tees between Main Tees at notch locations and hand tighten connector bolts. **Note: Proper care must be taken to carefully align the Cross Tee ends with the Main Tee notch to avoid leaving a gap in the gel channel intersection.** When all Cross Tees are installed in proper alignment, tighten all bolts and ensure proper seal at intersections.
- b. Level entire ceiling to within 0.10" overall and/or 0.06" in any 10' length.
- c. 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.
- d. Ensure Vinyl Trim Insert is fully attached to the 1/4"-20 continuous screw boss in the room side surface of the main tee. Trim excess length of Vinyl Trim Insert. Vinyl Trim Insert may be removed, trimmed, or relocated as additional equipment is installed or relocated.

3. Gel Installation:

- a. Using a compatible sealant caulk, seal all Grid penetrations and seams between Grid Members at Grid intersections. This is important to prevent any leakage of the liquid gel material when it is poured into the Ceiling Grid. Allow the sealant to cure for the recommended amount of time according to gel Manufacturer's instructions.
- b. In final preparation for gel pour, thoroughly wipe the inside of the gel channel with a dilution of isopropyl alcohol and water. During the wipe down, carefully inspect Ceiling Grid to assure that all seams and penetrations have been properly sealed.
- c. Install gel per Manufacturer's recommendations and instructions.

**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 WS-20-SS Gel Seal Grid Ceiling 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**