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CLEANROOM GEL GRID CEILING SYSTEM PRODUCT DATA

Division 13 21 13

WS-20 SERIES GRID GUIDE SPECIFICATIONS

PART I: GENERAL

- 1.1 RELATED DOCUMENTS
 - A. Drawings, General and Supplementary Conditions and Division 1 apply to work specified in the Section.
- 1.2 DESCRIPTION OF WORK
 - A. Furnish and install Gordon extruded aluminum grid ceiling systems as manufactured by Gordon, Inc. and as indicated on drawings including notes and details. All material and workmanship shall be of the highest quality, assembly and installation shall be in accordance with Gordon detailed instructions and specifications.
- 1.3 WORK INCLUDED
 - A. 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.
- 1.4 RELATED WORK
 - A. Intermediate steel framing
 - B. Air Filter Systems and Equipment
 - C. Lay-in and/or surface mounted light fixtures
- 1.5 PERFORMANCE
 - A. Completed ceiling system shall be capable of providing Cleanroom Classification Rating as required and indicated for area installed.

PART 2: PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Gordon, Inc, "WS-20 Gel Seal Grid"

2.2 CEILING SUPPORT MATERIALS AND ACCESSORIES

A. 2" Ceiling Grid and Suspension Accessories

1. WS-20 Gel Seal Grid – The 2" wide grid profile shall be extruded aluminum alloy 6063-T5. 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. As an option, grid members may be supplied with a continuous thread boss "ScrewSlot" to allow for simple attachment of teardrop light fixtures or other accessories without the need for drilling. A removeable extruded plastic trim finish strip in a color to match the extrusion is installed where the grid member may be exposed.
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 Zinc 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.

2.3 BLANK CEILING PANELS

- A. Aluminum panels – Blank ceiling panels shall be of inverted pan design, fabricated of minimum .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 powdercoat finish to match the ceiling grid.
- B. Hold down clips for blank panels to be 2" long extruded aluminum with hole in top for ¼" –20 x 3/8" long screw. Clip shall be fastened to the threaded web of the grid.
 1. Manufacturer
 - a. Gordon , Inc.

PART 3: INSTALLATION

3.1 WS-20 GRID INSTALLATION

- 3.2 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.
- A. Wall Angle Installation
1. Position wall angle at proper ceiling height on center of wall using laser leveling tool and attached 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. This 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 a carbide tipped blade. All joints must fit tight with no gaps.
 2. Optional Perimeter Main Tee and "Z" trim Installation: When utilizing main tee extrusions around the perimeter, a "Z" trim, furnished by Gordon, 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 effect 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 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.
- B. Grid Installation
1. 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 gasket intersections.
 2. Level entire ceiling to within 0.10" overall and. Or 0.06" in any 10' length.
 3. 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.
- C. Gel Installation
1. 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.
 2. 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.
3. Install gel per manufacturer's recommendations and instructions.

WS INSTALLATION INSTRUCTIONS

WS-20 grid is usually hung either directly from the deck or from Unistrut or a similar intermediate support system. Below is an installation sequence for installing the grid.

STEP 1

Place wall angle or perimeter tee on protected surface with the face down. Locate a 3-way connector 12" from one end and 24" on center thereafter. Connectors will be centered exactly above the notches in the upturned flange of the tee.

STEP 2

Position the perimeter wall angle, or perimeter tee, at the proper ceiling height. WS-20 wall angle or perimeter tee first run parallel to the main tee and should fall directly below the first run of Unistrut. The WS-20 perimeter tee/zee option would also follow the same line. The wall angle or perimeter tee that is notched 24" o.c., runs parallel to the main tee. After determining the correct starting point, the point where the first notch occurs, attach the wall angle, or perimeter tee, using conventional drywall fasteners such as screws or nails. The first notch will allow for perimeter zee dimension when using the perimeter tee. Wall angle must be tight against the wall and eventually sealed.

STEP 3

Place a main tee face down on a protected surface, such as a carpeted table or floor. Attach the 4-way connectors to the main tees. Position the center hole of the connector exactly 12" from the end of the main tee for 24" modules or 12-1/4" from the end for 24-1/2" modules. Then install 4-way connectors 24 or 24-1/2" o.c., as required for the job. Connectors will be located exactly in the center of the notch on the upturned flange of the tee. Insert two of the factory supplied bolts into the two holes closest to the center of the connector. Hand start these bolts and do not tighten, Install all connectors onto the main tee the same way. Leave off the last 4-way connector since this tee will be cut in at the wall. Screw a 1/4" nut up 1/2" onto the right hand side of the starter rod. Then insert the right hand end

of the RH/LH 9" starter rod into the coined (threaded) center hole of the connectors at a maximum of 48" or 48-1/2" o.c., as required, using vise grip pliers clamped onto the non-threaded shank of the starter rod. The rod should be nearly "bottomed-out" into the screw slot of the tee. Screw the turnbuckle onto the top of this rod. Repeat until all starter rods and turnbuckles are installed.

STEP 4

Position the first run of the main tee running perpendicular to the wall angle. Once the first main tee is in position, secure each 4-way connector to the previously installed 1/4" all thread rods supplied by others and secured to the structure above. Spacing for these rods should be a maximum of 48" or 48-1/2" o.c., as required. Additional main tees may now be installed using a 4" cross tee as a spacer. Level the main tee using the turnbuckles. Repeat until all main tees are in place.

STEP 5

Main tees are spliced together with the main tee splice connector. Additional main tees may now be installed in the same manner using a 4" cross tee as a spacer.

STEP 6

After at least two main tees are in place, install the first row of cross tees by inserting the cross tee into the 3-way connector at the perimeter. Spread the main tees and repeat installing into the 4-way connector. Verify at this time that the main tee is directly under the Unistrut and cross tee is perpendicular to the main. Secure the cross tee to both the perimeter 3-way connector and the main 4-way connector. Repeat until all cross tees are in place. Verify that the openings are 23-1/2" X47-1/2" net inside and fit various elements that will be dropping into the opening before proceeding.

STEP 7

Install all bolts on connectors and then securely tighten when entire ceiling grid system has been installed and level to within 0.10" overall or to 0.06 in any 10" length.

STEP 8

Seal all intersections and joints before pouring gel.