

**LSP Grid-Lock Ceiling System "SA" Specification  
(Standard Finish Polymer Core 2 Panels)**

Division \_\_\_\_\_

**PART 1 - GENERAL**

1.01 RELATED DOCUMENTS

- A. Drawings and related general provisions of contract, including general and supplementary conditions and other related Division I specification sections apply to this section.
- B. 1.1.2 Refer to Division \_\_\_\_\_ (HVAC) and Division \_\_\_\_\_ (Lighting) for requirements for coordination drawings. (Note to specifier: In order to ensure sealed panels, no equipment intended to be suspended from ceiling and no permanent through ceiling mechanical work can be completed prior to ceiling installation. Further, it is important that lighting direction and placement be indicated on the reflective ceiling plans. Also indicate type of lighting and mounting required. Subsequent changes that occur during construction must be related to ceiling manufacturer or contractor as they occur.)

1.02 SUBMITTALS

- A. Submit \_\_\_ set(s) of Manufacturer's data for
  - 1. Ceiling Units
  - 2. Suspension System
  - 3. Ceiling Locking Mechanisms
- B. Submit \_\_\_ set(s) of drawings showing the placement of ceiling components in conjunction with the reflective ceiling plan.

1.03 QUALITY ASSURANCE

- A. Provide all materials panels, accessories, etc.) from a single supply source.

1.04 DELIVERY, HANDLING AND STORAGE

- A. Deliver materials packaged so that materials are clearly marked and identifiable showing the following:
  - 1. Product Name
  - 2. Manufacturer's Name
  - 3. Component Designation
- B. Handle Materials by methods to prevent damage
- C. Inspect direct job-site deliveries to assure that quantities are correct and that materials comply with specifications and are not damaged.
- D. Replace, at no cost to owners, materials that are found defective either in manufacture, handling or storage.
- E. Store materials on site at the final installation temperature for at least 24 hours prior to, during, and after installation

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1.05 WARRANTY

- A. Provide a limited 10 year material warranty against defects in manufacturing and a two year warranty against defects in installations.

1.06 JOB CONDITIONS

- A. For 24 hours before installation, during the installation, and for 24 hours after installation of the ceiling, maintain temperature and relative humidity at in-service conditions.
- B. Interior finish wet work such as plastering, concrete, and resinous wall coatings shall be completed and dry prior to installation of ceiling components.
- C. Mechanical, electrical, HVAC and other work above the ceiling line which result in through-ceiling penetrations shall be completed, stubbed and approved prior to the start of the ceiling installation.
- D. Mechanical installations below the ceiling line such as space heaters, piping and other work shall not be completed until the ceiling installation is completed.

**PART 2 - PRODUCTS**

- A. Manufacturer of the ceiling system shall supply and warrant all components of the system with the exception of wire hangers. For the purposes of this specification, GRID-LOCK Ceiling System "SA" as manufactured by Life Science Products is used as the standard.
- B. All suspension grid components shall be of pultruded PVC fiberglass construction with UL # 723 Flame Spread Rate of less than 25, Smoke development of 425, USDA and Agriculture Canada accepted.
- C. The grid deflection shall not exceed 1/360 with a 6 pound per foot loading in a 4 foot span. DO NOT support weight of lights, diffusers or equipment with grid. Equipment must have independent support.
- D. Assembly clips shall be manufactured from Grade 1, Type 2 virgin PVC, must comply with UL 94 V-0 and be USDA accepted.
- E. Ceiling Panels shall be 7.5 mm in overall thickness with fiberglass reinforcement on both the top and bottom sides. Finish shall be Class 1 Fire Rated halogenated polyester resin and gel coat. Panels shall be square edge construction with polymer core insensitive to moisture. The panels shall have the following properties:
  - A) Fire rating Class 1 ASTM E84
  - B) Light reflectance coefficient LR-1, 0.75 or greater
  - C) Minimum weight of 2.0 lb. per square foot
  - D) Standard finish

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- F. The panel finish face shall possess the following characteristics:
- Impact Resistance (kJ/m<sup>2</sup>): 64
  - Reinforcement (gm/m sq.): 500 W.R. + 450 + 30 tissue
  - Total Weight (lbs/ft sq.): 2.0
  - Proportion of reinforcement (% by weight): 34
  - Tensile Strength (MPa): 120
  - Compressive Strength (MPa): 220
  - Flexural Strength (MPa): 170
  - Interlaminar Shear (MPa): 22
  - Young's Modulus (E GPa): 9.0
  - Thermal Conductivity (W/mK): 0.16 at 20 degrees C.
  - Thermal Transmittance (W/m<sup>2</sup>K): 5.7 at 20 degrees C.
  - Coefficient of linear expansion: 22-40 x 10<sup>-6</sup>/K at 20 degrees C.
  - Operating Temperature: - 40 C. to + 50 C.
- G. \_\_\_\_\_% of the ceiling panels shall be locked and held in place by Grid-Lock clips which shall be of resinous composition and require no tools for access from below. The remaining panels shall be locked in place using removable PVC clips applied to the grid from above.
- H. The grid system shall receive self adhesive EDPM D-profile gaskets made of 100% cellular rubber prior to installation of panels. The EDPM gasket material must remain flexible at - 40° F. The perimeter of the panels shall rest evenly on the gasket so the gasket can serve as the seal.

**PART 3 – EXECUTION**

- A. Space hangers as required to accommodate specified ceiling panel dimensions. Lay hangers out for each room or space. Install additional hangers as required to support framing at columns, ducts and other through ceiling penetrations.
- B. Keep main runners and carriers clear of abutting walls.
- C. Install wall angle components by fastening them to the wall at a minimal 16" spacing and not more than 3" from the ends.
- D. DO NOT support any lights, diffusers or equipment with ceiling rail. Any ceiling lights diffusers or other equipment must have independent support.
- E. Caulk at all intersections of the wall angle and vertical surfaces and at all through ceiling penetrations.