

SYSTEM: RAISED ACCESS FLOOR POLYGROUP GAMAFLOR FULL STEEL HEAVY MEDIUM.

SECTION 09690

Access Floor - General Specifications.

Part 1 – General

1.1 Related Documents

- A. Drawings and general provisions contract, including general and supplementary conditions and Division 1 Specifications Section, apply to this section.

1.2 Summary

- A. This section includes the following:
 - 1. Gravity held panels, encapsulated sheet steel with concrete core complete with understructure system as specified in this section.
 - 2. Floor Panel coverings.
- B. Refer to Employer's General Requirements "Sustainable Design Requirements" for LEED requirements applicable to the work of this section.
- C. Manufacturer to supply documentation of level of compliance or non-compliance with the following requirements before consideration as an "acceptable manufacturer":
 - 1. The following are mandatory requirements for the overall project:
 - a. IEQ Credit 4.1- Low-Emitting Materials – Adhesives and Sealants: All adhesives and sealants used on the interior of the building (inside the weatherproofing s & applied on-site) shall not exceed the allowable VOC content and shall comply with the requirements of "Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule # 1168." For Aerosol Adhesives, Comply with "Green Seal Standard For Commercial Adhesives GS-36 in effect on October 19,2000."
 - b. IEQ Credit 4.3- Low-Emitting Materials – Flooring Systems: All hard surface flooring must be certified as compliant with the Floor Score standard by an independent third party. Flooring products covered by FloorScore include vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring and wall base.

1.3 Definitions and system description

- A. Access flooring is a complete portable assembly of modular floor panels on an elevated support system (understructure), forming an accessible underfloor cavity to accommodate electrical and mechanical services.

1.4 System Performance Requirements

- A. Performance requirements, General: Design, engineer, fabricate, and install access flooring to comply with performance requirements specified, as demonstrated by testing of manufacturers corresponding stock systems per test methods specified or, if not specified, manufacturers standard method.
- B. Structural performance: Provide access flooring systems capable of withstanding the following loads and stresses within limits and under conditions indicated, as determined by testing manufacturer's current standard products according to referenced procedures in Cisca A/F, "Recommended Test Procedures for Access Floors":

1. Concentrated Loads: Provide floor panels, including those with cutouts, capable of withstanding a concentrated design load of > 4.5kN, with a top-surface deflection under load and a permanent set not to exceed, respectively 2.5mm and 0.25 mm according to CISCA A/F, Section I, "Concentrated Loads" through a 25-mm square or 28. -mm diameter steel indenter according to CISCA A/F, Section I, "Concentrated Loads."
 2. Uniform Loads: Provide floor panels, including those with cutouts, capable of withstanding a uniform design load of 4000kg/m², with a top-surface deflection under load and a permanent set not to exceed, respectively, 2.5mm and 0.25 mm.
 3. Rolling-Load Performance: Provide access flooring systems capable of withstanding rolling loads of the following magnitude applied to non perforated panels, with a combination of local and overall deformation not to exceed 1.02 mm after exposure to rolling load over CISCA A/F Path A or B, whichever path produces the greatest top surface deformation, according to CISCA A/F, Section III, "Rolling Loads." a. CISCA A/F Wheel 2 Rolling Load (10000 times): > 3560 N unless otherwise required.
 4. Coordinate Impact Load with Electrical drawings.
 5. Stringer Concentrated-Load Performance: Provide stringers, without panels in place, capable of withstanding a concentrated load of 200 kg at center of span with a permanent set not to exceed 0.25 mm, as determined per CISCA A/F, Section IV, "Stringer Load Testing."
 6. Pedestal Axial-Load Performance: Provide pedestal assemblies, without panels or other supports in place, capable of withstanding a 30,00 kN axial load per pedestal, according to CISCA A/F, Section V, "Pedestal Axial Load Test."
 7. Pedestal Overturning-Moment Performance: Provide pedestal assemblies, without panels or other supports in place, capable of withstanding an overturning moment per pedestal of 115 N x meters, according to CISCA A/F, Section VI, "Pedestal Overturning Moment Test."
 8. Safety Factor: Panel supported on actual understructure (the system) shall be capable of withstanding a minimum of (2) two times the design load anywhere on the panel without failure. Failure is defined as the point at which the system will no longer accept the load
 9. Support Structure Performance: The structure shall tolerate a vertical axial load 4 times heavier than the values of concentrated loads, for five minutes without showing any structural settling.
- C. Floor Panel Impact-Load Performance: Provide access flooring system capable of withstanding an impact load of > 670 kg when dropped from 900 mm onto a 6.5-sq. cm area located anywhere on panel, without failing. Failure is defined as collapse of access flooring system.
- E. FIRE PERFORMANCE OF THE SYSTEM:
1. Reaction to fire:
 - a. Standard: ASTM-E84-1998: Class: A.
 2. Resistance to fire:
 - a. Standard: ASTM-E84-1998: Period of resistance: 1 hour.
 3. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less
 - c. Combustion Characteristics: ASTM E 136

- F. Flammability: System shall meet Class A Flame spread requirements for flame spread and smoke development. Tests shall be performed in accordance with ASTM-E84-1998, or U.L.C. S102.1 Standard Test Method for Surface Burning Characteristics for Building Materials.
- G. Combustibility: Access floor panels shall qualify as noncombustible by demonstrating compliance with requirements of ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 deg C., or NBC noncombustible test procedure ULC S135/S114.
- H. Thermal conductivity must be < 0.33 Wmk
- I. Panel shall be easily removed by one person with a lifting device and shall be interchangeable except where cut for special conditions.

1.5 Submittals

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specifications section.
- B. Product data for each type of access flooring specified and test reports under ASTM CISCA third part international laboratory.
- C. Shop drawings indicating complete layout of access flooring based of field verified dimensions; include dimensional relationships to adjoining work installation tolerances. Include details, with descriptive notes indicating materials, finishes, fasteners, typical and special edge conditions, accessories, understructure, and other data to permit a full evaluation of entire access flooring system.
- D. Samples for initial selection purposes in form of manufacturers color charts consisting of actual units or sections of units showing full range of colors, textures, and patterns available for each type of floor covering and exposed finish indicated.
- E. Samples for verification purposes in full size units of each type of floor covering and exposed finish indicated.
- F. Leed details from Company according Green Building certificated and technical leed datasheet for each material.
- G. Catalogue: Submit catalogue specifying all materials that enter in the description.
- H. Manufacturer's installation instructions and guidelines.
- I. Manufacturer's Owner Manual outlining recommended care and maintenance procedures.
- J. Warranty: The contractor shall guarantee the materials, products and installation to be sound and free from all defects for a period of minimum 3 years from date of completion and acceptance of the work.
- K. Product origin certification stamped and signed for manufacturer.

1.6 Quality Assurance

- A. Installer qualifications: Engage an experienced installer who is approved by the access flooring manufacturer for installation of the types of access flooring required for this project.
- B. Single Source Responsibility: Obtain access flooring from a single manufacturer.
- C. Coordination of Work: Coordinate location of mechanical and electrical work in underfloor cavity to prevent interferences with access flooring pedestals.
- D. The panels must be no removable printed with name of manufacturer and place of production.

1.7 Delivery, Storage and Handling

- A. Deliver access flooring components in original, unopened packages, clearly labeled with manufacturer's name and item description.
- B. Handle and store packages containing access flooring in a manner which avoids overloading building structure.

1.8 Project Conditions

- A. Environmental conditions: Do not proceed with installation of access flooring until installation area is enclosed and has an ambient temperature of between 10 degrees Centigrade and 30 degrees Centigrade and a relative humidity of not more than 50 percent.
- B. Field Measurements: Verify actual locations of walls, columns, and other construction contiguous with access flooring by field measurements before fabrication and indicate measurements on Shop Drawings.

1.9 Sequencing and Scheduling

- A. Mark pedestal locations by use of a 600 x 600 grid on concrete subfloor so that mechanical and electrical work can take place without interfering with pedestals.
- B. Do not proceed with installation of access flooring until after substantial completion of other performable construction within affected spaces.

1.10 Extra Materials

- A. Deliver extra materials to owner. Furnish 3% extra materials described below matching products installed, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Standard field panels and understructure.

Part 2 – Products

2.1 Manufacturers

- A. Subject to compliance with requirements, provide access flooring by the following:

POLYGROUP EUROPE /Seville, Spain

Phone: +34-955-997731

www.accessfloorpolygroup.com; email: info@accessfloorpolygroup.com

2.2 Floor Panels

General: Provide manufacturer's standard modular field panels of size and construction indicated, that are interchangeable with other standard field panels, easily located and removed without disturbing adjacent panels or understructure by one person using a portable lifting device, free of expose metal edges in installed position with floor covering in place.

- A. Nominal Panel Size: 600mm x 600mm
- B. Fabrication Tolerances: Fabricate panels to the following tolerances with squareness tolerances expressed as the difference between diagonal measurements from corner to corner.
- C. Size and squareness: 600x600 mm Plus or minus 0.20 mm of required size, with a squareness tolerance of plus or minus 0.30 mm, unless tolerance are otherwise indicated for a specific panel type.
- D. Nominal Thickness 33 to 36 mm thickness without finished + finished application.

- E. This panel is shaped by a base (bottom) of special sheet steel of 0.90 mm (9/10 mm) and with a Top sheet steel of 0,90 mm (9/10mm) with 140 welding points between them, and completely painted with epoxy cover for protection with 60 micres minimum.
- F. The core of panel will be a Concrete of High Density infilled inside encapsulated steel (1280 kg/cubic metric density) and total thickness of not less of 34 mm.
- G. Maximum weight per panel without finished will be 15 kg and maximum weight per sqm of total system 48 kg/sqm including pedestals and stringers.

2.3 Finished applied directly on panels from the factory

The next section allow to choose the finished required that will be bonded directly from the factory on top of raised access floor panel:

- A. The panel will be barepanel without finished applied from factory for install loose lay vinyl or carpet on top in the site.
- B. The panel will be finished from the factory with HPV High pressure vinyl antistatic LIDER PVT of 2.5 mm total thickness and 0.70 mm transparent layer for obtain high abrasion resistant.
- C. The panel will be finished from the factory with Antistatic ESD Solid Vinyl POLYGROUP CONDUCTILE SUPER-OR with 2.00 mm total thickness obtaining electrical resistance from 10^7 to $10^9 \Omega$
- D. The panel will be finished from the factory with Conductive Solid Vinyl POLYGROUP CONDUCTILE SUPER-OR with 2.00 mm total thickness including copper tape for obtain electrical resistance from 10^4 to $10^6 \Omega$
- E. The panel will be finished from the factory with antistatic carpet of minimum 5.00 mm thickness (50%PP/50%PA) applied in the panel from the factory.
- F. The panel will be finished from the factory with 4mm thickness natural wood timber, type to be defined.
- G. The panel will be finished from the factory with 10mm thickness porcelain calibrated and rectified.
- H. The panel will be finished from the factory with 12mm thickness natural granite calibrated and rectified.

I. Edge Condition

- a. Manufacture integrated covering without pvc or abs or plastic edge trim. Factory finished. The panel will not have edge trim perimeter for obtain the most homogeneous and continues appearance.

J. Peel Resistance

- a. Finished applied from the factory on top of panel must be >1.2 N/mm in Peel resistance according UNE 12825:2002

2.4 Understructure

- A. Pedestals: Provide manufacturers standard pedestal assembly including base, column with provisions for height adjustments, and head (cap), made either of steel zined
 - 1 Base: The base of the pedestal is composed of a circular steel plate measuring a diameter of 90 mm and 3 mm thick, the plate a star shape of 8 sides and with 8 holes. The center of the plate is circular welded round completely in is a tube of 2,5 mm thickness and with 25mm diameter and variable height according to the height requirements; the tube top end is narrow and has interior threading metric 18 mm minimum for the screwing of the head of the pedestal. This piece is made of zinc plated steel.

- 2 Head: The head of the pedestal is made of a square steel plate measuring 76 x 76 mm and it is 3 mm thick, the based has 8 holes to facilitate the exit of the adhesive. The center of the plate is circular welded round completely to a threaded steel rod metric 18 mm minimum of variable height. This piece is made of zinc plated steel.
 - 3 Nuts: The Metric 18 mm rod is provided with 2 DIN 439 nuts of zinc plated steel. These nuts work as support, breaking point and security nut.
 - 4 Screws: 4 screws of 45 mm and metric 6 mm will be screw to fix panels or stringers to pedestal.
- B. The system as a whole ensures against the potential unlevelling of the floor except for incorrect manipulation of the panels.
The base of the pedestal should be glued to the structural floor with a special adhesive.
- C. Panels shall be gravity held or screw on understructure system
- D. Stringers is required manufactured in Galvanized Steel Closed sections dimension 30x20 mm minimum and thickness 1.0 mm minimum with assembled complete acoustic gum of 1 mm. In barepanel system only is required for final height more than 450 mm, in other case the panel will be screwed on top of pedestal. When the panel is finished from the factory stringers will be required.

2.5 Accessories

- A. Colors and Finishes: For exposed accessories available in more than one standard color or finish, provide color or finish complying with the following requirements:
1. Provide selections made by architect from manufacturers full range of standard colors and finishes for products and materials indicated.
- B. Cutouts: Fabricate cutouts in floor panels to accommodate cable penetrations and service outlets. Comply with requirements indicated for size, shape, number and location. Provide reinforcement or additional support, if needed, to make panels with cutouts comply with standard performance requirements.
1. Fit cutouts with manufacturer's standard grommets in size indicated or, where size of cutouts exceeds maximum grommet size available, trim edge of cutouts with manufacturer's standard plastic molding having tapered top flange. Furnish removable covers for grommets.
 2. Provide foam rubber pads for sealing annular space formed in cutouts by cables and trim edge of cutout with molding having flange and ledge for capturing and supporting pads.
- C. Vertical Closures (Fascia): Where underfloor cavity is not enclosed by abutting walls, columns, beams, or downward slabs, provide manufacturer's standard metal closure plates with factory applied finish.
- D. Ramps: Manufacturer's standard ramp construction of width and slope indicated, with non slip raised disc rubber or vinyl floor covering, and of same materials, performance, and construction requirements as the access flooring.
- E. Steps: Provide steps of size and arrangement indicated with floor covering to match access flooring. Apply non slip aluminum nosing to treads unless otherwise indicated.
- F. Panel Lifting Device: Manufacturer's standard portable lifting device of type and number required for lifting panels with floor covering provided.
- G. Perforated Panels: Provide perforated panels with or without operable dampers and 42% free open area in quantities noted below. Finish to be that as specified for solid floor panels.
1. Provide the following quantity: *(enter quantity)*

2.6 Leed Certification

- A. The manufacturer must be part of Green Building Council where the factory have been approval like sustainable production according the World regulations.
- B. The product must comply with technical datasheet for recycled materials and sustainable production process. The product must be possible to recycle more than 45% after use.
- C. The product must help to obtain the LEED Certification for the building obtaining the maximum Level Platinum according the recycled raw materials used during the production.
- D. Manufacturer must submit documentation of VOC content for all products (adhesives&sealants) with specified VOC content.

Part 3 Execution

3.1 Installation

- A. Install access floor system and accessories under supervision of the access flooring manufacturers authorized representative to ensure rigid, firm installation free of vibration, rocking, rattle, squeaks, and other unacceptable performance.
- B. Set pedestals in adhesive as recommended by the access flooring manufacturer to provide full bearing of the pedestal base on the subfloor.
- C. Layout floor panel installation to keep the number of cut panels at the floor perimeter to a minimum. Scribe panel assemblies at perimeter to provide a close fit with no voids greater than 5 cms where panels abut vertical surfaces.
- D. Secure grid members to pedestal heads in accordance with access floor manufacturer's instructions.
- E. Thoroughly clean up dust, dirt and construction debris caused by floor installation, including vacuuming the subfloor area, as installation of floor panel proceeds. Extend cleaning under installed panels as far as possible.
- F. Level installed access floor to within 1,5 mm of true level over the entire area and within 3 mm in any 3 mts distance.
- G. General contractor and/or owner shall suitably protect the completed access floor from damage.

All specifications are subject to change without notice or obligation