
NAVFAC IGS-10270 (JUNE 2002)

Preparing Activity: LANTNAVFACENGCOM Based on UFGS-10270N

ITALIAN GUIDE SPECIFICATIONS

Use for ITALIAN projects only

SECTION 10270

ACCESS FLOORING
06/02

NOTE: This guide specification is issued by the Atlantic Division, Naval Facilities Engineering Command for regional use in Italy.

NOTE: This guide specification covers the requirements for access flooring for computer rooms and other rooms where a raised floor is required.

Comments and suggestion on this specification are welcome and should be directed to the technical proponent of the specification. A listing of the technical proponents, including their organization designation and telephone number, is on the Internet.

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

NOTE: On the drawings, show:

1. Extent and shape of access flooring area.
2. Height of access floor surface above structural floor.
3. Location and design of ramps, steps, and doors to access floor area; railing heights and design.
4. Location and sizes of registers, grilles, perforated panels, and cable openings through access floor panels.

5. Design and type of plenum fire extinguishing systems, if space under access floor is to be used as air plenum.
6. Layout of plenum dividers.
7. Pattern of access floor panels.
8. Location of building electrode.

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 648 (1997) Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

ITALIAN LAWS AND NORMS (D.M.)(LAW)(CIRC.)

NOTE: Italian laws and normatives are the legislative regulations and decrees issued by the Italian government in the form of laws, norms, decrees, circulars, and letters. These Laws and Decrees concur together with Norms and Standards in forming the governing directives for construction.

DM 16/1/96 (16 January 1996) Technical Norms for Construction in Seismic Zones

DM 26/6/84 (26 June 1984) Reaction to fire and materials for approval fire prevention

ITALIAN NATIONAL ASSOCIATION FOR UNIFICATION OF STANDARDS (UNI)

NOTE: A UNI Norm is a technical normative recognized as Italian Law, submitted by a private organization "Ente Nazionale Italiano di Unificazione" for Italy and is available only in the Italian language. It is the National Standard.

UNI 5743 (1966) Metallic protective coatings of ferrous materials - Zinc layer uniformity test on hot galvanized materials - Preece test

UNI 9237 (1988) Cold rolled flat finished and coated unalloyed steel products - Electrolytic zinc coated sheets, strips and coils for road vehicles - Qualities, requirements and tests

UNI 10465 (1995) Raised access floors - Terms and definitions

UNI 10466 (1995) Raised access floors - Requirements

UNI 10467/1 (1995) Raised access floors - Test methods - General consideration

UNI 10467/2 (1995) Raised access floors - Test methods - Measurement of the geometric and dimensional characteristics of the panel

UNI 10467/3 (1995) Raised access floors - Test methods - Load tests on the floor unit

UNI 10467/4 (1995) Raised access floors - Test methods - Load tests on components

UNI 10467/5 (1995) Raised access floors - Test methods - Measurement of electrical resistance of the floor unit

UNI 10569 (1996) Pressure die castings of aluminium alloys - General tolerances

ITALIAN/EUROPEAN HARMONIZATION STANDARDS (UNI EN)(UNI ENV)(CEI EN)
(UNI EN ISO)(UNI ISO)

UNI EN 335-3 (1998) Durability of wood and wood-based products - Definition of hazard classes of biological attack - Part 3: Application to wood-based panels

UNI EN 438-2 (1993) Decorative high-pressure laminates (HPL) - Sheets based on thermosetting resins - Determination of properties (ISO 4586-2:1988 modified)

UNI ISO 1182 (1990) Fire tests - Building materials - Non-combustibility test

1.2 SUBMITTALS

NOTE: Where a "G" in submittal tag follows a submittal item, it indicates Government approval for that item. Add "G" in submittal tags following any added or existing submittal items deemed sufficiently critical, complex, or aesthetically significant to merit approval by the Government. Submittal items not designated with a "G" will be approved by the QC organization.

Submit the following in accordance with Section 01330, "Submittal Procedures."

SD-02 Shop Drawings

Access flooring system

SD-03 Product Data

Pedestals

Support system

Floor panels

Accessories

SD-04 Samples

Access floor finish; G

Submit manufacturer's standard colors for specified floor covering material.

SD-05 Design Data

NOTE: Provide lateral bracing calculations on all installations. Level 1 Contracting Officer's approval was granted for calculations by a registered professional engineer. Occupancy importance factor (I) and seismic zone factor (z) should be deleted in accordance with NAVFAC P-355.

Design loads

[Seismic calculations]

Submit test data that substantiates conformance with each design load specified [and seismic design calculations].

SD-08 Manufacturer's Instructions

Installation of access flooring system

1.3 DRAWINGS FOR ACCESS FLOORING SYSTEM

Take measurements from finished areas at site and indicate:

- a. Location of panels
- b. Layout of supports, panels, and cutout locations
- c. Stair, handrail, and ramp framing
- d. Sizes and details of components
- e. Lateral bracing
- f. Typical cutout details
- g. Gasketing, return air grilles, supply air registers, and perforated panels. Include air transfer capacity of grilles, registers and panels
- h. Floor finishes
- i. Location of connection to building grounding electrode

1.4 DESIGN REQUIREMENTS

NOTE: Due to complexities of housing sophisticated electronic equipment, special requirements may be necessary. Check with user to ascertain precise requirements for intended use. Special items which may be required include conductive flooring, radio-frequency and electromagnetic interference shielding, and underfloor fire protection systems. Consideration should also be given to loads which will be imposed during operation. Some equipment, such as high speed printers require large quantities of paper to be delivered by carts. When in motion, these heavy may exceed capacity of floor system. Check with user activity and floor system manufacturer when heavy rolling loads are expected.

UNI 10465, UNI 10467/1, UNI 10467/2, UNI 10467/3, UNI 10467/4, and UNI 10467/5. Provide for self-alignment of floor panels, adjustable pedestals and readily removable floor panels covered as specified. Lateral stability of floor system shall be independent of panels. Finished assembly shall be rigid and free of vibration, noises, and rocking panels. Provide bolted stringer system for equipotential plane grounding.

1.4.1 Allowable Tolerances

- a. Floor Panel Flatness: Plus or minus 0.5 mm on diagonal on top of panel or underneath edge.
- b. Floor Panel Length: Plus or minus 0.4 mm.
- c. Floor Panel Squareness: Plus or minus 0.5 mm in panel length.
- d. Finish Floor: Level within plus or minus 1.6 mm in 2 meters, and plus or minus 2.5 mm for entire floor.

1.4.2 Design Loads

NOTE: Insert heavier loads when required by project. Check manufacturer's literature for maximum loadings available. Generally, computer rooms are based on live load of 12 kPa and point load of 450 kg. In general office spaces or for heavy duty systems specify appropriate loading. Coordinate design loads for access floor with design of structural slab. Design loads in accordance with Uniform Building Code and NAVFAC P-355.

NOTE: UNI 10466 establishes 4 loading classes for concentrated loads:

- Class 1 (Light loads) - 2 kN
- Class 2 (Medium loads) - 3 kN
- Class 3 (Heavy loads) - 4.5 kN
- Class 4 (Special loads) - As specified by designer

UNI 10466, [Class 1 (Light loads)] [Class 2 (Medium loads)] [Class 3 (Heavy loads)] [Class 4 (Special loads)]. Design access flooring system in accordance with UNI 10466, UNI 10467/3, and UNI 10467/5, adjusted to resist the following loads:

- a. Rolling load of [_____] kilograms applied through a 75 mm diameter by 30 mm wide caster for 10 cycles over the same path with less than one mm top surface permanent set.
- b. Rolling load of [_____] kilograms applied through hard rubber surfaced wheel 150 mm diameter by 50 mm wide for 10,000 cycles over the same path. Permanent set at conclusion of test shall not exceed 0.25 mm.
- c. Impact load of [_____] kilograms on 645 square millimeters from a height of 300 mm with permanent set not to exceed 1.5 mm.
- d. Concentrated load of [450] [560] [_____] kilograms concentrated on 645 square millimeters at any point on panel with maximum

deflection of 2.0 mm with a safety factor of 2.0 based on static design load and with maximum permanent deflection of 0.25 mm.

e. Stringer capable of supporting 90 kilograms minimum at mid-span with less than 0.25 mm permanent set.

[f. Submit seismic calculations for lateral bracing, sealed by a Professional Engineer. Show that access floor system complies with seismic requirements of DM 16/1/96.

NOTE: Provide lateral bracing calculations on all installations. Level 1 Contracting Officer's approval was granted for calculations by a registered professional engineer.

g. Lateral loads determined in accordance with DM 16/1/96 for Seismic Grade [S=6 (low grade)] [S=9 (medium grade)] [S=12 (high grade)].

]1.4.3 Grounding

NOTE: Access floor system must be grounded for safety hazard and static control. Safety hazard control is accomplished by running ground wires to access floor understructure from building ground and is specified in DIVISION 16-ELECTRICAL. The three most common static control requirements are:

1. Computer rooms, electronic offices, data centers and control rooms. The access floor system should provide resistance from floor wearing surface to building grounding electrode within range of 0.5 to 20,000 megohms.

2. Clean rooms, laboratories, and other environments which are more sensitive to static discharge. The access floor system should provide resistance within range of 0.2 to 2.0 megohms.

3. Hospitals and other facilities described by NFPA 99 and referenced to UL 779. The access floor system should provide resistance within range of 0.025 to 1.0 megohms.

NOTE: Coordinate this section with Division 16 for grounding system and components. This section covers grounding and interconnection of raised floor components. The connection of floor system to building ground system(s) is specified and installed under Division 16. Location of building ground

electrode must be indicated on the drawings.

Ground access floor system for safety hazard and static suppression. Connection of access floor support system to building grounding electrode(s) is specified in Division 16. Provide positive contact between components for safe, continuous electrical grounding of entire floor system. Total system resistance from wearing surface of floor to building grounding electrode shall be within range of [0.5 megohms to 20,000 megohms] [0.2 megohms to 2.0 megohms] [0.025 megohms to 1.0 megohms].

1.4.3.1 Insulate Metal Grilles

Exposed metal is not allowed at wearing surface of access floor system, except at metal grilles and registers. When grilles and metal registers are provided, insulate as required to provide same grounding resistivity as wearing surface.

1.4.3.2 Joint Resistance

NOTE: Coordinate with electrical drawings and specifications to assure that connection to building grounding electrode is shown. Do not use sound deadening materials which prevent grounding of system. Select total system resistant to comply with user requirements.

Electrical joint resistance between individual stringer and pedestal junctions shall be less than 0.1 milliohms. Electrical resistance between stringers and floor panels as mounted in normal use shall be less than 3 ohms.

1.5 DELIVERY, STORAGE AND PROTECTION

1.5.1 Delivery

Deliver materials to site in undamaged condition, in original containers or packages, complete with accessories and instructions. Label packages with manufacturer's name and brand designations. Where materials are covered by referenced specification, containers or packages shall also bear specification number, type, and class as applicable.

1.5.2 Storage

Store materials under cover in well-ventilated enclosure. Do not expose to extreme changes in temperature or humidity that could cause damage. Do not store materials in building until wet-applied materials are dry. Replace defective or damaged materials.

1.5.3 Protection

Protect materials from damage during entire construction period.

1.6 ENVIRONMENTAL REQUIREMENTS

During installation, maintain room temperature between 4 and 32 degrees C and relative humidity between 20 and 70 percent, unless otherwise recommended by manufacturer. Begin installation after completion of work of other trades which require wet applied materials.

1.7 EXTRA STOCK

NOTE: Choose one of the following options.

NOTE: To assure matching floor panel which may become damaged and require replacement, supply of extra stock is recommended. Set amount based on conditions of specific project. Do not specify extra stock unless user activity concurs; warehousing may not be available.

[Provide [four] [_____] floor panels complete with specified floor covering for future use.]

PART 2 PRODUCTS

2.1 SOURCE MANUFACTURERS

2.1.1 Access Flooring

The following manufacturers provide raised access flooring systems that generally comply with these specifications:

TOPFLOOR
00198 Roma
Corso Trieste 63
Tel: 39-06-8419103
Fax: 39-06-8558451
Web: www.topfloor.it

EUROFLOOR S.r.l.
PAVIMENTI SOPRAELEVATI
Via S. Filippo Neri, 11
20035 Lissone (MI)
Uff. Tel: 039/480.609
Stab. Tel: 039/482.449
Fax: 039/482.255
E-mail: info@eurofloorsrl.com

TECMA S.r.l.
Via Magnolini n. 18
25135 - (BR)

Tel: 030/3364640
Fax: 030/3364641
e-mail: info@tecmasrl.com

GRANITI FIANDRE S.p.A.
Via Radici Nord, 112
42014 - Castellarano (RE)
Tel: 0536/819611
Fax: 0536/858082
e-mail: info@granitifiandre.it
www.granitifiandre.it

2.2 PEDESTALS

**NOTE: Insert heavier load when required, based on
equipment to be installed.**

Provide pedestals of steel or aluminum, each capable of carrying [2250]
[_____] kilogram axial load without permanent deformation. Provide
permanent factory applied corrosion resistant finish for pedestals made of
ferrous materials.

2.2.1 Pedestal Bases and Shafts

Provide base plate not less than 100 by 100 by 3 mm thick, welded to shaft
of pedestal. Approved die-formed bases of equivalent load spreading
capacity and bearing area may be provided in lieu of flat base plates.
Provide shafts to support design loads.

2.2.2 Pedestal Caps

Design to fit precisely over pedestal shafts and to interlock with panels
and stringers to prevent tilting, rocking, or vibrating of panels when live
load is applied.

2.2.3 Pedestal Adjustments

Provide pedestals with adjusting threads or other devices that will permit
leveling of floor system with adjustment range of approximately 50 mm.

2.2.3.1 Locking Devices

Provide lock nuts, set screws, or other locking devices to positively lock
final pedestal vertical adjustments in place, independent of floor panels.

2.2.3.2 Leveling

Allow for adjustment as specified in paragraph entitled "Allowable
Tolerances."

2.2.4 Fasteners

Do not use self-tapping screws, snap type connections, or spring-action lock-nuts.

2.2.5 Adhesive

As recommended by manufacturer.

2.3 SUPPORT SYSTEM

Design support system to allow for 6.28 rad clearance in laying out cable and cutouts for service to machines and so that panel and stringer together take up maximum of 50 mm.

2.3.1 Stringers

NOTE: Specify bolted stringer and bolted panel systems. Consideration must be given to equipment planned for installation including type and amount of grounding required. If such equipment has extendable drawers or chassis which require equipment to be firmly anchored to prevent overturning, a rigid grid stringer system of suitable strength and rigidity may be used as anchoring point in lieu of fabricating special subfloor foundations for such equipment, which would restrict freedom called for in paragraph entitled "Support System." The specification may require modification to provide sufficiently rigid grid system to accommodate this condition.

NOTE: Delete the paragraph if a stringerless system is used.

Fabricate from rolled or formed galvanized steel conforming to UNI 9237. Incorporate interlocking pedestal and stringers in pedestal stringer system, providing positive seating of panels to prevent tilting, rocking, or vibrating of panels when live load is applied. Provide stringers that can be added or removed after floor is in place.

2.4 FLOOR PANELS

NOTE: Panels are available in other sizes (such as 450 by 450 mm, 900 by 900 mm). Check with user activity and verify product availability when specifying other than 600 mm panels. Use 150 mm as minimum practical height for access floor installation and 300 mm minimum when there is a plenum. Include the five panel types as options

except that wood core panels should not be specified for projects where data processing involves highly strategic data having direct bearing on National Defense effort. Check with user activity before specifying wood core panels.

Base access floor system on a 600 by 600 millimeter square module providing minimum of [150] [300] [_____] mm clearance between structural floor and top of finished floor. Fabricate so accurate job cutting and fitting may be done using standard sizes for perimeters and around columns. Do not expose metal on finished top surface of panels. Provide cutouts and cutout closures to accommodate utility systems and equipment intercabling. Reinforce cutouts to meet design load requirements. Provide extra support pedestals at each corner of cutout for cutout panels that do not meet specified design load requirements. Use panels of uniform dimensions within specified tolerances.

2.4.1 Interchangeable Panels

Provide interchangeable panels capable of supporting design loads using one of the following types:

2.4.1.1 Aluminum Panels

UNI 10569.

2.4.1.2 Steel Panels

Die-formed construction. Weld flat steel top sheet to one or more formed steel stiffener sheets. Provide panels having zinc-coating conforming to UNI 9237 with manufacturer's standard corrosive resistant finish. Wood and other combustible products are prohibited.

2.4.1.3 Wood Core Panels

Not less than 25 mm thick and faced on both sides with zinc-coated steel sheets structurally bonded under pressure with thermosetting adhesive and sealed on edges and corners with zinc-coated steel, vinyl, or extruded aluminum. Provide steel sheets lighter than 0.8 mm thick, with zinc coatings conforming to UNI 9237. Provide extruded vinyl edging not less than 3 mm thick. Provide particleboard core conforming to UNI EN 335-3. Completed panels must be rated class [0] [1] [___] when tested in accordance with DM 26/6/84 and UNI ISO 1182. Provide zinc-coated steel, extruded aluminum, fire resistant vinyl, or other fire resistant edging to protect shop and field edge cuts and cutouts through the face of panels in a manner to meet specified flame spread requirements.

2.4.1.4 Concrete Panels

Lightweight high-strength, and reinforced.

2.4.1.5 Cementitious or Concrete Formed Steel Panels

Entirely non-combustible steel shell and cementitious or concrete fill, corrosive resistant inside and out. Seal cut edges in accordance with manufacturer's recommendations. Gravity held panels with bolted stringer understructure: Fasten end of each stringer and mid-point of each 1200 mm stringer positively to pedestal heads, using manufacturer's standard screws. Provide screws that are removable from top.

2.4.2 Size

Individual floor panels [600 by 600] [[_____] by [_____] millimeters] of weight that can readily be removed and handled by one person using lifting tool furnished by access floor manufacturer.

2.4.3 Floor Finish

2.4.3.1 Floor Panel Finish

NOTE: Choose one of the following options.

NOTE: From stand-point of static build-up, high pressure laminate is most desirable floor covering, followed by carpet. Wax build-up on vinyl tile is a prime cause of static problems. Vinyl tile usually cannot meet resistivity requirements and is not recommended. Where personnel will be required to wear conductive to prevent static electricity build-up, it may be necessary to use conductive vinyl tile or conductive high pressure laminate.

NOTE: pproximately 3 mm thick is recommended on metal floor panels to reduce the possibility of cracking due to impact. On wood core, filled steel and concrete panels, 1.5 mm thick is sufficient due to absorptive quality of panel material. This option is recommended when there is frequent movement of equipment.

NOTE: Laminate classes listed below are for usual types of construction. Verify classification and performance categories of laminates from Table 1 of UNI EN 438-1 and insert other classes based on usage required.

[Surface with [HDS] [HDF] Class high pressure plastic laminate conforming to UNI EN 438-2, [3 mm] [1.5 mm] thick.]

NOTE: Most manufacturers can meet US tests since testing laboratories are familiar with ASTM tests and standards.

[Surface with one full carpet square per panel. Carpet shall be nylon filament, loop pile, minimum [0.81] [_____] kg per sq m, minimum density 135, without cushion. Carpet shall have flame propagation index of less than 4.0 or conform to ASTM E 648 with minimum average critical radiant flux of 0.25 watts per sq cm. Static electricity propensity shall be less than 2.0 kV at 20 percent relative humidity and 21 degrees C. Provide vinyl edge trim to prevent unravelling.]

2.4.3.2 Finish Attachment

Firmly bond floor finish in place with waterproof adhesive so as not to pull loose by lifting tool or when exposed to design loading. [A layer of approved sound-dampening or vibration-dampening material may be provided under the covering as part of floor panel if such practice is standard with manufacturer.] Do not pierce traffic surface with bolt heads or similar attachments.

2.4.3.3 Colors and Patterns

[As indicated.] [As selected by Contracting Officer from manufacturer's standard selection.]

2.4.4 Edge Strips

Provide perimeter of panels with extruded vinyl edge strips with top edge flush with panel floor finish. Mechanically lock edge strips and adhesive bond in place. Metal edge strips exposed at finish floor surface will be rejected.

2.4.5 Cut-Outs

Provide field cut-outs sealed in accordance with manufacturer's recommendations to prevent abrasion of cables and entrance of dust and debris.

2.4.6 Touch-Up

Touch-up paint on painted metal members.

2.5 LIFTING DEVICES

NOTE: Select the applicable paragraph(s) from the following:

NOTE: For installations of only one or two rooms, a

single lifting device is sufficient. In larger installations, or installations on different floors of same building, select an appropriate number of devices.

[Provide [one] [_____] floor panel lifting device[s] standard with access floor manufacturer [for each 100 square meters of floor area]. The lifting devices shall be a type standard with the raised floor industry for floor covering used.]

2.6 ACCESSORIES

2.6.1 Air Conditioning and Ventilation

Provide registers, grilles, perforated panels, and plenum dividers of manufacturer's standard type, designed to meet air handling capability indicated or specified. Provide isolation pads for steel and floor, and under registers and grilles, if such practice is standard with manufacturer. Design perforated panels to support same static load as typical floor panel. Install top surfaces of perforated panels flush with adjacent finished surfaces. [Provide operable dampers for perforated panels.] Minimum airflow characteristics for perforated panels, grilles and smoke dampers are specified in Section [_____, "_____"].

2.6.1.1 Electrical Service Outlets

Specified in Section [_____, "_____"].

2.6.2 [Steps] [and] [Ramps]

Bolt to framing. Use extruded or cast aluminum step nosings, threshold strips, and floor bevel strips with non-slip traffic surfaces. Close exposed sides of [ramps] [and] [steps] a minimum 1.2 mm thick aluminum fascia with a reinforced back to prevent warping.

2.6.2.1 Steps

Height of risers shall not exceed 190 mm. Design steps to support uniform load of 7.17 kilopascals. Provide surface treads with same material as floor panels.

2.6.2.2 Ramps

Fabricate of same materials as floor panels. Securely fasten to floor system and subfloor. Ramps shall support same loading as floor system. Surface ramps [of same materials as floor finish] [with non-slip surface]. Slope shall not exceed 1:12. Provide non-slip inserts on ramps.

2.6.3 Railings

NOTE: Where open sides of floors are 1200 mm or more above adjacent ground or floor level, "standard

railing" shall be installed in accordance with CFR 1910.23(e). Run post through raised floor and bolt to concrete floor for stability.

Post and double rail type, fabricated of aluminum, as indicated. Install top rail 1065 mm above finished panel surface unless indicated otherwise. Locate middle rail as indicated. Slope railings at [stairs] [and] [ramps] from horizontal and parallel to incline. Space posts maximum of [1200] [1500] [1800] mm oc. Provide railings with [satin clear natural] [_____] anodized finish, complete with anchorages, floor plates, and end caps. [Electronically connect hand rails to raised floor system to prevent static build-up.]

2.6.4 Fascia and Fascia Bracing

Provide aluminum or steel fascia plates at open ends of floor, at sides of ramps, at sides of steps, and elsewhere as necessary to enclose the free area under raised floor. Reinforce on back to prevent warping. Provide factory-applied corrosive resistant finish except when aluminum fascia plates are used. Install manufacturer's standard adjustable fascia bracing system behind fascia at maximum 1200 mm oc.

2.6.5 Wall Base

Vinyl or rubber cove base as specified in Section [[09651], "Resilient Tile Flooring."] [[_____, "_____"].]

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Debris Removal

Clear debris from area where floor system is to be installed. Thoroughly clean subfloor surfaces and remove all dust before work is started.

3.1.2 Surfaces

NOTE: Section 03300, "Cast-In-Place Concrete" should require that concrete floors used as air plenum surfaces beneath raised floors be sealed with approved liquid sealer compound. Sealer should be compatible with pedestal adhesive, if pedestals are anchored with adhesive. If a non-compatible sealer is applied before pedestals are anchored, specify removal of sealer at pedestal locations before adhesive is applied. If an existing subfloor has been painted or otherwise sealed with non-compatible sealer or paint, specify removal of coating before applying adhesive.

If the subfloor has been previously coated with sealer, hardener, or paint which would prevent proper adhesion, remove coating by grinding or scraping. Remove all debris and dust before applying adhesives.

3.2 INSTALLATION

3.2.1 Pedestals

NOTE: Choose fastening methods based on substrate material.

Secure bases of pedestals to structural floor with adhesive or approved mechanical fasteners. Fill voids with specified epoxy adhesive to provide full and firm contact with structural floor. Set pedestals plumb and in true alignment. Shim to obtain tolerances indicated in paragraph, "Allowable Tolerances."

3.2.2 Stringers

Firmly anchor stringers and other framing members to pedestals with threaded fasteners. Space stringers uniformly in parallel lines and place at required elevation with center to center spacing.

3.2.3 Auxiliary Framing

Provide around columns and other permanent structures, at sides of ramps, at free ends of floor, and beneath floor panels that are cut to accommodate utility systems and provisions for equipment mounting, air, and cable entry. Provide additional pedestals and stringers designed to specific heights and lengths to meet structural irregularities and design loads. Connect auxiliary framing to main framing.

3.2.4 Floor Panels

Lay flat without warp or twist, bearing uniformly on supports without rocking and without edges and corners projecting above floor plane. Interlock panels in a manner that will prevent lateral movement. Ensure that modular panels are interchangeable without re-leveling.

3.2.5 Repair of Zinc-Coating

Repair coating damaged by welding or in installation. Repair cut edges of zinc-coated components and accessories. Thoroughly clean areas to receive coating and remove slag from welds prior to application of paint. Apply galvanizing paint conforming to UNI 5743.

3.2.6 Wall Base

Install wall base as specified in Section [[09651], "Resilient Tile Flooring."] [[_____, "_____"].]

3.2.7 Plenum Dividers and Fascia Plates

Install by scribing to subfloor and attaching to floor and flooring system with aluminum angles. Adhere to subfloor and access floor system with sealant to provide air tight seal.

3.3 FIELD TESTS

3.3.1 Floor System Resistance

3.3.1.1 Acceptance Tests

Conduct acceptance tests after installation of floor system. Make at least one test for each [40] [100] [_____] square meters of floor area. Conduct tests in presence of Contracting Officer and representatives of manufacturer and installer.

3.3.1.2 Floor Resistance Test

Test resistance of finished floor wearing surface to building ground system. For connection to finished floor, use electrode described in UNI 10467/5; for connection to building ground system use clamp or bolted connection. Use ohm meter to measure conductive floor resistance. Should access floor fail initial resistance tests, make modifications to floor system in accordance with manufacturer's recommendations, until tests are passed.

3.4 CLEANING

Remove debris accumulated during installation. Immediately after completion of floor installation, thoroughly clean floor surface [using approved cleaner in accordance with floor covering manufacturer's instructions] [by vacuuming.] [Do not permit seepage of cleaner between individual panels.]

3.5 PROTECTION

Prior to rolling equipment across cleaned floors, cover with 13 mm plywood sheets. Maintain protection until completion of the Project. Do not permit equipment or materials to be transported over finished floor system in excess of design load capacity.

-- End of Section --