



CSI SPECIFICATIONS

Sheet Rubber Flooring | Rubber Stair Treads Rubber Floor Tile | Accessories

This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies rubber flooring, rubber floor tile and rubber stair treads. This product is manufactured by The FlexiFlor Company. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

SECTION 09657 RESILIENT SHEET FLOORING (RUBBER FLOORING)

PART 1 GENERAL

1.01 SUMMARY

Section Includes: Rubber Flooring.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain References Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard. It is a listing of all references used in this section.

1.02 REFERENCES

General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

ASTM International:

ASTM D471 Standard Test Method for Rubber Property-Effect of Liquids.

ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.

ASTM D2240 Standard Test Method for Rubber Property–Durometer Hardness.



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- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
- ASTM E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
- ASTM E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
- ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- ASTM F1859 Standard Specification for Rubber Sheet Flooring Without Backing.
- ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- ASTM F2169 Standard Specification for Resilient Stair Treads.
- ASTM F2199 Standard Test Method for Determining Dimensional Stability of Resilient Floor Tile After Exposure to Heat.

State of California:

- Standard Code Title 24 for the Visually Impaired.
- Americans with Disabilities Act (ADA).

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

1.03 SUBMITTALS

General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

Product Data: Submit manufacturer's product data and installation instructions.

Samples: Submit two of manufacturer's standard samples of all components for selection and verification.

Quality Assurance/Control Submittals: Submit the following:

Test Reports: Upon request, submit test reports of physical performance and characteristics from recognized test laboratories.

Certificates: Submit manufacturer's certification that products meet or exceed specified requirements.

Specifier Note: Article below should include statements of prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 1 Quality Assurance Section.

1.04 QUALITY ASSURANCE

Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity.



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Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies.].

Specifier Note: Retain paragraph below if mock-up is required.

Mock-Ups: [Specify requirements for mock-up.].

Subject to acceptance by owner, mock-up may be retained as part of finish work.

If mock-up is not retained, remove and properly dispose of mock-up.

Specifier Note: Retain paragraph below if preinstallation meeting is required.

Preinstallation Meetings: [Specify requirements for meeting.].

Specifier Note: Article below should include specific protection and environmental conditions required during storage. Coordinate article below with Division 1 Product Requirements Section.

1.05 DELIVERY, STORAGE & HANDLING

General: Comply with Division 1 Product Requirement Section.

Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Specifier Note: In article below, state physical or environmental limitations or criteria for installation such as weather, temperature, humidity, ventilation or illumination required for proper installation or application.

1.06 PROJECT/SITE CONDITIONS

Environmental Requirements:

Maintain room and material temperature at 70 degrees F (21 degrees C) 48 hours prior to, during and after installation.

Installation under temporary heating and air conditioning conditions is not acceptable. HVAC systems must be fully functioning prior to rubber flooring installation.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section. Use this article to require special or extended warranty or bond covering the work of this section.

1.07 WARRANTY

Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty



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document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

Specifier Note: FlexiFlor warranty details can be found at flexiflor.com/docs

1.08 MAINTENANCE

Extra Materials: Provide [A recommended percentage of] [Specify percentage.] additional material for use by owner in building maintenance and repair.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 RUBBER FLOORING

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain, edit or delete paragraph below to suit project requirements and specifier practice.

Manufacturer: The FlexiFlor Company.

1833 East Market Street (P.O. Box 9240), Akron, OH 44305; Telephone: (800) 321-2340, (330) 784-1291; Fax: (330) 794-6446; E-mail: info@flexiflor.com; website: flexiflor.com.

Proprietary Products/Systems: Rubber flooring products, including the following:

FlexiFlor Sheet Rubber Flooring (please visit flexiflor.com/rubber-sheet-flooring):

Specifier Note: 3/16 inch (4.8 mm) FlexiFlor is recommended for use on stair landings in conjunction with heavy-duty stair treads, not for most floor areas.

Thickness: [3/32 inch (2.4 mm)] [1/8 inch (3.2 mm)] [3/16 inch (4.8 mm)].

Roll Width: Standard 39 inches (0.91 m). Rolls may contain 2 pieces, the shortest piece being at least 5 yd² (4.2 m²).

Material Formulation: Fully homogeneous and uniform through the sheet, containing no asbestos fibers, no ozone-depleting chemicals (ODCs) and not produced using ODC-containing materials.

Material Standard: Comply with requirements of ASTM F1859.

Color: [Specify color.].

Surface Burning Characteristics (ASTM E84 Tunnel Test), Flame spread Index: 75 or less.

Critical Radiant Flux Test (ASTM E648): 0.65 watts/cm² or greater.

Smoke Suppression Test (ASTM E662): Less than 450 after 4 minutes.



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Moisture Absorption (ASTM D471): Less than 0.2% by weight, 72 hours at 70 degrees F (21 degrees C).

Tear Strength (ASTM D624): 120 lb per inch.

Coefficient of Friction (ASTM D2047): 0.6 - 0.7 dry.

Dimensional Stability (ASTM F2199): Machine direction 0.10%; across machine direction 0.20%.

Hardness (ASTM D2240, Shore A): Hardness: 90 ± 5.

Impact Sound Transmission (ASTM E492): Impact Noise Rating -18, Impact Insulation Class 33.

FlexiFlor Rubber Tile Flooring (please visit flexiflor.com/rubber-tile):

Thickness: [3/32 inch (2.4 mm)] [1/8 inch (3.2 mm)] [3/16 inch (4.8 mm)].

Size: 12 inch × 12 inch (305 × 305 mm).

Material Standard: Comply with requirements of ASTM F1859.

Material Formulation: Fully homogeneous and uniform through the tile, containing no asbestos fibers, no ozone-depleting chemicals (ODCs) and not produced using ODC-containing materials.

Color: [Specify color.].

Surface Burning Characteristics (ASTM E84 Tunnel Test), Flame spread Index: 75 or less.

Moisture Absorption (ASTM D471): Less than 0.2% by weight, 72 hours at 70 degrees F (21 degrees C).

Tear Strength (ASTM D624): 120 lb per inch.

Coefficient of Friction (ASTM D2047): 0.6 - 0.7 dry.

Dimensional Stability (ASTM F2199): Machine direction 0.10%; across machine direction 0.20%.

Hardness (ASTM D2240, Shore A): Hardness: 90 ± 5.

Impact Sound Transmission (ASTM E492): Impact Noise Rating -18, Impact Insulation Class 33.

Molded Rubber Stair Treads (please visit flexiflor.com/rubber-stair-treads):

Style Number: [Specify style number.].

Type: [Specify type.].

Thickness: [Specify thickness.].

Nosing: [Specify nosing.].

Color: [Specify color.].

Abrasive Strip Color: [Specify color.].



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Surface Burning Characteristics (ASTM E84 Tunnel Test), Flame spread Index: 75 or less.

Riser: Molded rubber risers in matching or contrasting colors, as selected by the architect shall be installed to set on top of rubber treads.

Accessibility Requirements: Comply with requirements of ADA.

Adhesion Enhancement: Minimum of 80% of back and nose (square nose) sanded by manufacturer to help ensure proper adhesion and installation.

Material Standard: Comply with ASTM F2169.

Material Formulation: Fully homogeneous and uniform through the product, containing no asbestos fibers, no ozone-depleting chemicals (ODCs) and not produced using ODC-containing materials.

Moisture Absorption (ASTM D471): Less than 0.2% by weight, 72 hours at 70 degrees F (21 degrees C).

Tear Strength (ASTM D624): 120 lb per inch.

Coefficient of Friction (ASTM D2047): 0.6 - 0.7 dry.

Dimensional Stability (ASTM F2199): Machine direction 0.10%; across machine direction 0.20%.

Hardness (ASTM D2240, Shore A): Hardness: 90 ± 5.

Impact Sound Transmission (ASTM E492): Impact Noise Rating -18, Impact Insulation Class 33.

Specifier Note: Edit Article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

2.02 PRODUCT SUBSTITUTIONS

Substitutions: No substitutions permitted.

Specifier Note: List characteristics of assembly, components, products or materials involved that must relate to match existing work such as matching style, material or finish, surfaces, operation and dimensions. Specify compatibility between new and existing materials. Retain, edit or delete to suit project requirements and specifier practice.

2.03 EXISTING PRODUCTS

[Specify requirements to match existing materials.].

Specifier Note: Specify subordinate or secondary items that aid and assist primary products specified above or are necessary for preparation or installation of those items.

2.04 ACCESSORIES (please visit flexiflor.com/accessories)

Provide accessories as indicated:

Rubber Stair Risers:

Manufacturer: The FlexiFlor Company.

Designation: [Specify color & length].



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Rubber Stair Skirt Board/Stringers:

Manufacturer: The FlexiFlor Company.

Designation: [Specify color & width].

Rubber Feature Strips:

Manufacturer: The FlexiFlor Company.

Designation: [Specify color & width].

Rubber Tactile Warning Strips:

Manufacturer: The FlexiFlor Company.

Designation: [Specify color, length & width].

Latex Adhesive:

Manufacturer: The FlexiFlor Company.

Designation: #56 Latex Adhesive.

Epoxy Flooring Adhesive:

Manufacturer: The FlexiFlor Company.

Designation: #5 Epoxy Flooring Adhesive.

Epoxy Nosing Caulk:

Manufacturer: The FlexiFlor Company.

Designation: #10 Epoxy Nosing Caulk.

Aerosol Flooring Adhesive:

a. Manufacturer: The FlexiFlor Company.

b. Designation: #17 Rubber Aerosol Adhesive.

HydroLock Flooring Adhesive:

a. Manufacturer: The FlexiFlor Company.

b. Designation: #95 Hydrolock Adhesive.

Metal Caps, End-Stops and Corners:

Manufacturer: B & T Metals Company, Columbus, OH.

Designation: [Specify designation(s)].

Neoprene Contact Adhesive:

Manufacturer: The FlexiFlor Company.

Designation: Neoprene Contact Adhesive.

Floor Leveling and Filling Compound:

Manufacturer: Acceptable to flooring manufacturer.

Designation: [Specify designation].



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PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI *SectionFormat* and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

Specifier Note: Manufacturer recommends that moisture transmission not exceed 3 lb/1000 ft² per 24 hours and where excessive moisture exists, manufacturer does not recommend installation of its rubber flooring products unless with the use of the #95 Hydrolock adhesive. Manufacturer does not recommend that its sheet rubber or rubber tile flooring be installed in the following applications: commercial kitchens, chemistry or biology laboratories, exterior installations or over existing installations of floor coverings.

3.01 MANUFACTURER'S INSTRUCTIONS

Comply with the instructions and recommendations of the rubber flooring manufacturer.

Specifier Note: Specify actions to physically determine that conditions are acceptable to receive primary products of the section.

3.02 EXAMINATION

Site Verification of Conditions:

Verify that site conditions are acceptable for installation of rubber flooring.

Do not proceed with installation of rubber flooring until unacceptable conditions are corrected.

Specifier Note: Specify actions required to physically prepare the surface, area or site or to incorporate the primary products of the section.

3.03 PREPARATION

Specifier Note: Please visit flexiflor.com/docs for more installation instructions.

General:

Immediately prior to the installation of the resilient flooring, broom sweep the subfloor, damp mop and allow to dry thoroughly.

Do not use gypsum based floor patching or certain leveling compounds.

Surface Preparation; New Concrete Subfloors:

Follow guidelines of ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

Concrete must be troweled to a smooth, even surface and cured for at least 90 days.

Specifier Note: Cinder fill, vermiculite, pumice and other aggregates, which are hygroscopic in nature, cause the concrete to be very slow drying. This type of concrete will easily absorb excessive moisture from the atmosphere and other sources.

Concrete must be sound, hard and free from scale or other imperfections and thoroughly dry when installation is made.

Completely remove any residual concrete curing compound.

Properly fill expansion joints with a compound recommended by the manufacturer.



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Neutralize surface of concrete using either 1 part muriatic acid and 9 parts water or 1 part white vinegar and 5 parts water as a neutralizing agent. Allow solution to remain on floor for at least one hour and then flush thoroughly with water. Allow to dry thoroughly for a minimum of 48 hours at 70 degrees F (21 degrees C).

Surface Preparation; Wood Subfloors:

Use solid core, exterior grade plywood with one side sanded, installed with sanded side up, as an underlayment. Do not use lauan plywood, particleboard, chipboard or high density wood fiberboard as an underlayment.

Wood subfloor must be thoroughly nailed or otherwise securely fastened to the substrate. If the wood subfloor is uneven, sand smooth. Remove dust from the sanding operation by thoroughly vacuuming subfloor.

Properly fill voids and depressions with a compound recommended by the flooring manufacturer.

Specifier Note: Coordinate article below with manufacturer's recommended installation requirements. When rubber flooring is to be installed over a wood subfloor treated with fire retardants or a metal subfloor, contact manufacturer for recommendations.

Specifier Note: For on-grade installations where there is a possibility of moisture being present, manufacturer recommends that The FlexiFloor Company's #95 Hydrolock Flooring Adhesive or #5 Epoxy Flooring Adhesive be used. This adhesive must be used throughout hospital operating suites. Contact manufacturer for more information on recommended adhesives and their use.

Specifier Note: Installation instructions can be found at flexiflor.com/docs

3.04 INSTALLATION

Specifier Note: Please visit flexiflor.com/docs for more installation instructions.

General:

Install rubber flooring in a neat and professional manner with tight seams or joints, and with an adhesive appropriate for the installation.

For most installations, use flooring manufacturer's recommended #56 latex adhesive.

For installation of Target Tile and Stair Treads, use flooring manufacturer's recommended #5 epoxy adhesive.

First dry lay all flooring materials and inspect to detect any possible abnormalities before beginning installation.

On rolling equipment, use flat wheels with no ridges to avoid floor damage.

Immediately after installation, thoroughly roll rubber flooring in both directions with a 100 - 150 lb (46 - 68 kg) sectional roller. Apply weight to seams as necessary until a suitable bond has been established.

Sheet Rubber Flooring Installation:

Overlap edges of sheet rubber so that all seams can be double cut to ensure best appearance.



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Underscribing is not an acceptable installation method.

When flashing rubber flooring up wall to base height, install and properly adhere a rubber fillet strip where floor and wall meet. Fit top edge of flashed rubber to a metal cap or other suitable trim. Securely adhere the flashed rubber to the fillet strip and the wall.

Optional Chemical Seam Bonding Installation:

After dry cutting and fitting sheet rubber flooring, apply a 4 inch - 6 inch (100 - 150 mm) wide band of epoxy flooring adhesive at the seam and field cuts.

Spread latex adhesive in the field areas.

Place sheet rubber flooring into adhesive and roll with a 100 - 150 lb (46 - 68 kg) roller. Ensure proper bonding by using a hand roller at the seams to force adhesive into seam and create a chemical bond. Weight seams as necessary until a suitable bond has been established.

Stair Tread Installation:

Ensure that surface of steps, risers, landings and subfloors are sound, clean, free of foreign matter and dry.

Thoroughly nail wood steps before installation of treads.

The surface of the concrete in metal pan-filled stairs must be troweled smooth with no ridges and level with top of pan.

Carefully fit treads and risers in a neat and professional manner, and securely bond with adhesive recommended by flooring manufacturer.

Install abrasive strip stair treads with a 1/16 inch (1.6 mm) gap at each end of the stair tread to prevent loosening of the abrasive strip.

Ensure that nose of stair tread fits tightly against, and is securely bonded to, face of stair riser or nosing. Fill open spaces at nosing between the step and the stair tread with #10 epoxy stair caulk.

Thoroughly roll all stairs and risers until a suitable bond has been established.

Specifier Note: Specify how existing work is to be repaired, restored and cleaned. Retain, edit or delete to suit project requirements and specifier practice.

3.05 REPAIR/RESTORATION

[Specify requirements for repair/restoration.]

Specifier Note: Specify the tests and inspections required for installed or completed work. Retain edit or delete article below to suit project requirements and specifier practice. Calcium chloride test should be conducted for all concrete substrate and concrete pan stair tread applications.

3.06 FIELD QUALITY CONTROL

Site Tests: Conduct calcium chloride moisture test in compliance with ASTM F1869.

Maximum allowable moisture transmission must not exceed 3 lb/1000 ft² in 24 hours.

Specifier Note: Specify the final actions required to clean installed equipment or other completed work to properly function or perform. Coordinate article below with Division 1 Execution Requirements (Cleaning)



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3.07 CLEANING

Specifier Note: Please visit flexiflor.com/docs for more installation instructions.

NO APPLIED FINISHES OR SEALERS ARE REQUIRED. It is recommended that no floor finishes or sealers be used on our rubber flooring material. Gloss level will depend on the frequency of buffing.

STEP 1: Stripping as Needed New Rubber Flooring should be thoroughly machine stripped and scrubbed with a scrubbing pad and stripper. Use stripper manufacturer's recommended stripping procedure. **General Cleaning:** Clean floor thoroughly with a good grade of mild detergent cleaner. Use cleaner manufacturer's recommended cleaning procedure.

STEP 2: Neutralize stripper or cleaner with minimum 10% solution of liquid chlorine bleach. Vacuum, mop or squeegee the neutralized solution from the floors. Rinse the floor surface with a solution of 10% liquid chlorine bleach in warm water (may need two or more rinses).

STEP 3: Once the floor is dry, buff floor using an Ultra High Speed Buffer with a red pad. (A light mist of clear water ahead of buffer often helps to develop sheen) After sheen is developed, a higher gloss may be obtained by using a white super polishing pad. Note: New Rubber Flooring will require more frequent buffing until a high sheen is acquired.

STEP 4: Dry dust or mop floors. Do not use dusters or mops treated with mineral oil or other petroleum products.

STEP 5: Periodically mop floors using 5% solution of liquid chlorine bleach in water or comparable disinfectant.

ALL ABOVE STEPS TO BE USED AS NEEDED.

Specifier Note: Specify provisions for protecting work after installation but prior to acceptance by the owner. Coordinate article below with Division 1 Execution Requirements Section.

3.08 PROTECTION

Protect installed work from damage due to subsequent construction activity on the site.

Specifier Note: Retain, edit or delete article below to suit project and specifier practice. If retained, indicate item, element, product or equipment and its location. Provide other coordinating data.

3.09 SCHEDULES

[Specify schedule information.]

END OF SECTION