

RESILIENT MULTI-PURPOSE/SPORT FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Sheet vinyl resilient multi-purpose/sport flooring.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Manufacturer Certifications:
 - 1. Provide certification that accurately identifies the Original Equipment Manufacturer (OEM) of flooring furnished for this project including manufacturer's name, address and factory location.
 - a. Suppliers of Private-Label flooring for this project must identify themselves as such and fully disclose the OEM information listed above.
 - b. All "manufacturer" requirements in these specifications must be complied with by the OEM, including warranties, certifications, qualifications, product data, test results, environmental requirements, performance data, etc.
 - 2. Provide ISO 9001 certification for the OEM of the specified products.
 - 3. Provide ISO 14001 certification for the OEM of the specified products.
- C. Laboratory Test Results:
 - 1. Provide certification of testing per ASTM F2772-11 and the product being furnished complies with the ASTM Indoor Sport Floor Classification specified for this project. Third-party certification required; sales literature is not sufficient.
- D. Shop Drawings: Showing installation details and locations of borders, patterns, game lines, locations of floor inserts and seams.
- E. Samples:
 - 1. Manufacturer's color chart for selection of available colors.
- F. Samples:
 - 1. Color Chart: Manufacturer's color chart for selection of available colors.
 - 2. Product Samples: Sample of each type, color, and pattern of flooring indicated, Provide samples of same thickness and material specified. Minimum sample size: 6 inches by 8 inches.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. For a qualified resilient flooring Manufacturer.
2. For a qualified resilient flooring Installer.

1.4 CLOSEOUT SUBMITTALS

A. Submit three copies of the following:

1. Manufacturer maintenance instructions.
2. Manufacturer material warranty.
3. Installer installation warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. ISO 9001 Certified.
2. ISO 14001 Certified.
3. At least ten years active experience in the manufacture and marketing of indoor resilient multi-purpose flooring.
4. A provider of authorized installer training.

B. Installer Qualifications:

1. At least five years experience in the installation of resilient multi-purpose flooring.
2. Experience on at least five projects of similar size, type and complexity as this project.
3. Employer of workers for this Project who are competent in techniques required by manufacturer for resilient multi-purpose flooring installation indicated.

C. Fire Test Characteristics: As determined by testing identical products according to ASTM E 648, Class 1, by a qualified testing agency acceptable to authorities having jurisdiction.

D. Safety and Performance Properties: Comply with ASTM F 2772-11 Performance Level Class 1 for force reduction, ball bounce, vertical deformation and surface friction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store flooring and installation materials in protected dry spaces, with ambient temperatures maintained within range recommended by manufacturer, but not less than 55 deg F (13 deg C) nor more than 85 deg F (29 deg C).
- B. Store the indoor resilient surfacing rolls in an upright position on a smooth flat surface immediately upon delivery to Project.

1.7 FIELD CONDITIONS

- A. Product Installation:
 - 1. Maintain temperatures during installation within range recommended by manufacturer, but not less than 65 deg F (18 deg C) in spaces to receive flooring for 48 hours prior, during and 48 hours after installation.
 - 2. After installation, maintain temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 85 deg F (29 deg C).
 - 3. Prohibit traffic during flooring installation and for at least 48 hours after flooring installation.
- B. Install flooring only after other finishing work, including painting and overhead work, has been completed.

1.8 WARRANTY

- A. Special Limited Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace sports flooring that fails within specified warranty period.
 - 1. Material warranty must be direct from the product manufacturer.
 - a. Material warranties from private label distributors are not valid.
 - 2. Failures include, but are not limited to, the following:
 - a. Material manufacturing defects.
 - b. Failure due to substrate moisture exposure not exceeding 95% relative humidity (RH) when tested according to ASTM F2170
 - 3. Warranty Period: 15 years from date of Substantial Completion.
- B. Special Limited Warranty: Installer's standard form in which installer agrees to repair or replace flooring that fails due to poor workmanship or faulty installation within the specified warranty period.
 - 1. Warranty Period: 1 year from date of Substantial Completion.

1.9 ENVIRONMENT AND INDOOR AIR QUALITY

A. LEED™ Documentation:

1. MR Credits: For products having recycled content, indicate percentage by weight of post-consumer and pre-consumer recycled content.
2. IEQ Credits: For adhesives and flooring, including a statement of VOC content.

B. Indoor Air Quality Certification:

1. Flooring products must be FloorScore® Certified.
 - a. FloorScore® certification proves compliance with the volatile organic compound emissions criteria of the California Section 01350 standard.
 - b. FloorScore® certification proves compliance with the testing and product requirements of the California Department of Health Services “Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.”
 - c. FloorScore® documentation must include certificate number for specified product.
2. Manufacturer’s certification of factory applied permanent Bacteriostatic and Fungicidal Treatment throughout the flooring material, not only on its surface, designed to improve indoor air quality and reduce asthma and allergy risks associated with bacterial and mold growth.

C. Manufacturer Certification of Environmental Procedures:

1. Original Equipment Manufacturer’s (OEM) ISO 14001 Certification

1.10 COORDINATION

- A. Coordinate layout and installation of flooring with other gymnasium equipment.

PART 2 - PRODUCTS

2.1 SHEET VINYL MULTI-PURPOSE FLOORING

- A. Basis-of-Design Manufacture: Subject to compliance with requirements, provide Gerflor RECREATION 30 Multi-purpose flooring installed with Gerflor’s full-spread adhesive.
- B. Product Description: ASTM Class 1 Foam-backed sheet vinyl flooring designed for fully adhered multi-purpose applications.
 1. Overall Thickness: Not less than 0.12 inch (3.0 mm).
 2. Wear-Layer Thickness: Not less than 0.03 inch (0.7 mm)

3. Backing: closed cell foam with reinforced fiberglass grid.
4. Seaming Method: Heat welded.
5. Adhesive Method:
 - a. Full-spread adhesive coverage to completely adhere flooring to substrate.
 - b. Complete adhesive coverage to eliminate the possibility of gaps or space between the slab and flooring material where moisture could accumulate and create an environment conducive to mold growth.
 - c. Flooring to be fully adhered to the concrete slab in all locations eliminating the possibility of waves or wrinkles forming caused by the floor shifting, moving or by rolling loads displacing it.
6. Traffic-Surface Texture: Wood visual shall have wood grain embossed texture for a genuine wood appearance and Solid colors to have "pebbled" embossed texture for an attractive appearance.
7. Bacteriostatic and Fungicidal Treatment: Manufacturer's factory-applied permanent treatment throughout the flooring material which can improve indoor air quality and reduce asthma and allergy risks associated with bacterial and mold growth.
 - a. Basis-of-Design Product: Gerflor Sanosol
8. Applied Finish: Manufacturer's, factory-applied, permanent and UV-cured.
 - a. No-Wax finish: Published product literature identifying factory applied finish as, "No-Wax-Just clean and rinse"
 - b. Basis-of-Design Product: PUR Protect.
9. Field-Applied Finishes: None required and not allowed.
10. Roll Size:
 - a. Roll Width: Rolls to be a minimum width of 78 inches (2 m) wide.
 - b. Roll Length: Rolls to be a minimum length of 82 feet (25 m) to minimize the number of end-seams.
11. Color and Pattern:
 - a. As selected by Owner from manufacturer's standard colors and patterns.
 - b. Wood pattern shall accurately simulate the true visual appearance of natural wood strip flooring. Surface texture shall simulate realistic wood grain and not be raised or "pebbled" embossing.

C. Performance Criteria:

1. ASTM F 2772-11 Indoor Sport Floor Standard:

- a. Provide certification of compliance for the four ASTM F2772 Indoor Sport Floor Standard performance categories:
 - 1) Shock Absorption/Force Reduction:
 - a) Class C1 (10% to 22%): Pass
 - 2) Ball Bounce:
 - a) Minimum 90%: Pass
 - 3) Surface effect/Coefficient of Friction:
 - a) Between 80-110: Pass
 - 4) Vertical deformation:
 - a) Maximum 3.5mm: Pass
- 2. Sound Insulation: EN ISO 717; 17 dB.
- 3. Fire Performance: ASTM E 648; Greater than 0.45 W/cm², Class 1.
- 4. Surface Maintenance Requirements: No-wax surface requiring only cleaning and rinsing.
- 5. Slab Moisture Design Tolerance: Maximum relative humidity (RH) of 95% when tested according to ASTM F 2170.

2.2 ACCESSORIES

- A. Trowelable patching compound for standard slab surface preparation: Latex-modified, hydraulic-cement-based formulation provided by flooring manufacturer.
 - a. Basis-of-Design Product: GerPatch, Gerflor's patching compound.
 - b. Slab moisture tolerance: Same slab moisture tolerance as the adhesive.

2.3 Adhesives: Water-resistant type recommended by athletic flooring manufacturer for substrate and conditions indicated.

- 1. Basis-of-Design Product: Gerflor Gerfix Spray Adhesive.
 - a. Moisture Resistance Limit: 95% relative humidity (RH) when tested according to ASTM F 2170
 - b. Coverage Type: Full-spread application for 100% coverage.
- B. Heat Welding Rod: As supplied by indoor resilient flooring manufacturer. Color shall blend with resilient flooring color.

- C. Game-Line and Marker Paint: Complete system including primer, compatible with flooring and recommended by flooring and paint manufacturers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify the Following:

1. The area in which the indoor resilient flooring will be installed is dry, weather-tight and in compliance with specified requirements.
2. Permanent heat, lighting and ventilation systems are installed and operable.
3. Other work, including overhead work, that could cause damage, dirt, dust or otherwise interrupt installation has been completed or suspended.
4. No foreign materials or objects are present on the substrate and that it is clean and ready for preparation and installation.
5. Tests to verify that the moisture evaporative rate or substrate relative humidity is within the specified ranges.
6. The concrete slab surface pH level is within the specified range.
7. The concrete slab surface deviation is no greater than 3/16 inch within 10 feet (3.2 mm within 3 m) when measured according to ASTM E 1155.
8. The concrete slab complies with ACI 302.2R for concrete design including use of a low-permeance vapor barrier directly beneath the concrete subfloor with sealed penetrations.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations to ensure proper adhesion of resilient flooring system.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 1. Verify that substrates are dry and free of sealers, curing compounds and other additives. Remove coatings and other substances that are incompatible with adhesives using mechanical methods recommended by manufacturer.
 2. Alkalinity Testing: Perform pH testing according to ASTM F 710. Proceed with installation only if pH readings are between 7.0 and 8.5.
- C. Moisture Testing: Perform ASTM F 2170 relative humidity test and proceed with installation only after substrates have maximum relative humidity (RH) of 95%.

- D. Use Gerflor's GerPatch trowelable concrete based patching compound with the same moisture vapor tolerance as the adhesive to fill depressions, holes, cracks, grooves or other irregularities in substrate.
- E. Place flooring and installation materials into spaces where they will be installed at least 48 hours before installation. Install flooring materials only after they have reached the same temperature as space where they are to be installed.
- F. Sand the surface of the concrete slab.
- G. Sweep and then vacuum substrates immediately before installation. After cleaning, examine substrate for moisture, alkaline salts, grit, dust or other contamination. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 SHEET MULTI-PURPOSE FLOORING INSTALLATION

A. General:

- 1. Comply with resilient flooring manufacturer's installation instructions.
- 2. Take necessary precautions to minimize noise, odors, dust and inconvenience during installation.
- 3. Fit flooring neatly and tightly to vertical surfaces, equipment anchors, floor outlets, and other interruptions of floor surface.
- 4. Extend flooring into toe spaces, door reveals, closets, and similar openings unless otherwise indicated.

B. Lay out flooring as follows:

- 1. Minimize number of seams and place them inconspicuous areas.
- 2. Locate seams as shown on approved Shop Drawings

C. Adhered Flooring: Attach products to substrates using a full-spread of adhesive applied to substrate to comply with adhesive and flooring manufacturer instructions.

D. Vinyl Sheet Flooring Seams: Finish seams to produce surfaces flush with adjoining flooring surfaces. Comply with ASTM F 1516. Rout joints and use heat welding rod to permanently and seamlessly fuse sections together.

3.4 GAME LINES AND LOGOS

- A. Lay out game lines and logos to comply with rules and diagrams published by National Federation of State High School Association for the sports activities indicated.
- B. Mask flooring at game lines and logos, and apply paint of color indicated to produce clean, sharp and distinct edges.

3.5 CLEANING AND PROTECTION

- A. Perform the following operations after completing resilient flooring installation:
 - 1. Remove marks and blemishes from flooring surfaces.
 - 2. Sweep and then vacuum flooring.
 - 3. Damp-mop flooring to remove soiling.
- B. Protect flooring from abrasions, indentations, and other damage from subsequent operations and placement of equipment, during remainder of construction period.

END OF SECTION