

**RECREATION**

**Multi-Purpose Flooring**

**This is an editable document for preparing project specifications for the highlighted RECREATION Multi-Purpose Flooring in Construction Specification Institute (C.S.I.) format:**

|  |  |  |
| --- | --- | --- |
|  | **Product Name** | **Installation method** |
| BD21301_ | **REC 45 with Isolsport Vented Slip-Sheet** | **Loose-Lay installation Slab moisture tolerance to 92% RH**  |

*Contact* [*www.gerflorusa.com*](http://www.gerflorusa.com) *or your local Gerflor representative for other Gerflor specifications including:*

* **Full-Spread installation with standard adhesive**

**How to use this Guide Specification:**

This is an “edit-out” document with specification language for several project options. Select appropriate text based on the project requirements and delete (edit-out) all other text.

* Specifier notes are shown in blue like this: Editor Notes
* Locations where language for Project-specific requirements is to be inserted or selected are indicated like this: **[insert]** or **[select text]**.
* Finally, remove Editor Notes and any unused optional text in the final version of the specification document.

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SECTION 096566 - RESILIENT MULTI-PURPOSE/SPORT FLOORING

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes: Sheet vinyl resilient multi-purpose/sport flooring installed over loose-lay vented slip sheet system.
			2. ACTION SUBMITTALS
				1. Product Data: For each type of product indicated.
				2. Manufacturer Certifications:

Provide certification that accurately identifies the Original Equipment Manufacturer (OEM) of flooring furnished for this project including manufacturer’s name, address and factory location.

Suppliers of Private-Label flooring for this project must identify themselves as such and fully disclose the OEM information listed above.

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.

Provide ISO 9001 certification for the OEM of the specified products.

Provide ISO 14001 certification for the OEM of the specified products.

* + - * 1. Laboratory Test Results:

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.

* + - * 1. Shop Drawings: Showing installation details and locations of borders, patterns, game lines, locations of floor inserts and seams.
				2. Samples:

Color Chart: Manufacturer's color chart for selection of available colors.

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.

Isolsport sample: Minimum 6 inch by 8 inch piece of Isolsport slip-sheet underlayment product with a pattern of raised “bumps” on the bottom designed for venting moisture vapor.

* + - 1. INFORMATIONAL SUBMITTALS
				1. Qualification Data:

For a qualified resilient flooring Manufacturer.

For a qualified resilient flooring Installer.

* + - 1. CLOSEOUT SUBMITTALS
				1. Submit three copies of the following:

Manufacturer maintenance instructions.

Manufacturer material warranty.

Installer installation warranty.

* + - 1. QUALITY ASSURANCE
				1. Manufacturer Qualifications:

ISO 9001 Certified.

ISO 14001 Certified.

At least ten years active experience in the manufacture and marketing of indoor resilient multi-purpose flooring.

A provider of authorized installer training.

* + - * 1. Installer Qualifications:

At least five years experience in the installation of resilient multi-purpose flooring.

Experience on at least five projects of similar size, type and complexity as this project.

Employer of workers for this Project who are competent in techniques required by manufacturer for resilient multi-purpose flooring installation indicated.

* + - * 1. 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.
				2. Safety and Performance Properties: Comply with ASTM F 2772-11 Performance Level Class 2 for force reduction, ball bounce, vertical deformation and surface friction.
			1. DELIVERY, STORAGE, AND HANDLING
				1. 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).
				2. Store the indoor resilient surfacing rolls in an upright position on a smooth flat surface immediately upon delivery to Project.
			2. FIELD CONDITIONS
				1. Product Installation:

Maintain temperatures during installation within range recommended by manufacturer, but not less than 65 deg F (18 deg C) in spaces to receive flooring 48 hours prior, during and 48 hours after installation.

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).

Prohibit traffic during flooring installation and for at least 48 hours after flooring installation.

* + - * 1. Install flooring only after other finishing work, including painting and overhead work, has been completed.
			1. WARRANTY
				1. Special Limited Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace sports flooring that fails within specified warranty period.

Material warranty must be direct from the product manufacturer.

Material warranties from private label distributors are not valid.

Failures include, but are not limited to, the following:

Material manufacturing defects.

Failure due to substrate moisture exposure not exceeding 92% relative humidity (RH) when tested according to ASTM F2170

Warranty Period: 15 years from date of Substantial Completion.

* + - * 1. 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.

Warranty Period: 1 year from date of Substantial Completion.

* + - 1. ENVIRONMENT AND INDOOR AIR QUALITY
				1. LEED™ Documentation:

MR Credits: For products having recycled content, indicate percentage by weight of post-consumer and pre-consumer recycled content.

IEQ Credits: For adhesives and flooring, including a statement of VOC content.

* + - * 1. Indoor Air Quality Certification:

Flooring products must be FloorScore® Certified.

FloorScore® certification proves compliance with the volatile organic compound emissions criteria of the California Section 01350 standard.

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.”

FloorScore® documentation must include certificate number for specified product.

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.

* + - * 1. Manufacturer Certification of Environmental Procedures:

Original Equipment Manufacturer’s (OEM) ISO 14001 Certification

* + - 1. COORDINATION
				1. Coordinate layout and installation of flooring with other gymnasium equipment.
1. PRODUCTS
	* + 1. SHEET VINYL MULTI-PURPOSE FLOORING
				1. Basis-of-Design Manufacture: Subject to compliance with requirements, provide Gerflor RECREATION 45 Multi-purpose flooring with Isolsport vented slip-sheet system for loose-lay installation.

Editor Note:

Select one of the following 3 paragraphs to address consideration of additional manufactures:

If no substitutions will be accepted:

* + - * 1. Substitution Limitations:

No substitutions.

If products from other manufacturers will be considered, insert 1) the manufacture’s name 2) the product name and 3) the slip-sheet underlayment name:

* + - * 1. Other Manufactures: Subject to compliance with all the requirements of this specification, including installation with vented slip-sheet, provide products by one of the following:

**[manufacturer’s name**] **:** [**floor product name**] with [**slip-sheet underlayment name]**

If other manufacturers are allowed to submit requests for approval prior to bid:

* + - * 1. Substitution Limitations:

All other manufacturers: Submit formal substitution request prior to bid in accordance with Section 012500 - "Substitution Procedures”.

Approval by Architect of other manufacturers does not relieve Contractor of responsibility to provide products which comply with all requirements of this specification including installation with vented slip-sheet.

* + - * 1. Product Description: ASTM Class 2 Foam-backed sheet vinyl flooring for installation over vented slip-sheet.

Overall Thickness: Not less than 0.18 inch (4.5 mm).

Wear-Layer Thickness: Not less than 0.04 inch (1.0 mm)

Backing: closed cell foam with reinforced fiberglass grid.

Seaming Method: Heat welded.

Adhesive Method:

Sport Flooring: Full-spread adhesive to completely adhere sport flooring to the top of the vented slip-sheet layer.

Vented Slip-sheet: Loose-lay installation over substrate.

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.

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.

Basis-of-Design Product: Gerflor Sanosol

Applied Finish: Manufacturer's, factory-applied, permanent and UV-cured.

No-Wax finish: Published product literature identifying factory applied finish as, “No-Wax-Just clean and rinse”

Basis-of-Design Product: PUR Protect.

Field-Applied Finishes: None required and not allowed.

Roll Size:

Roll Width: Rolls to be a minimum width of 59 inches (1.5 m) wide.

Roll Length:

Wood visual rolls to be a minimum length of 86 feet, 6 inches (26.4 m) to minimize the number of end-seams.

Solid color rolls to be a minimum length of 67 feet, 3 inches (20.5 m) to minimize the amount of waste if accent colors are selected for boarders, keys or center circle.

Color and Pattern:

As selected by Owner from manufacturer's standard colors and patterns.

Wood pattern shall accurately simulate the true visual appearance of natural wood strip flooring.

Pattern shall replicate random-length stock by simulating non-uniform board lengths.

Wood pattern shall not include a dark line simulating edges or ends of individual boards.

Surface texture shall simulate realistic wood grain and not be raised or "pebbled" embossing.

* + - * 1. Performance Criteria:

ASTM F 2772-11 Indoor Sport Floor Standard:

Provide certification of compliance for the four ASTM F2772 Indoor Sport Floor Standard performance categories:

Shock Absorption/Force Reduction:

Class C2 (22% to 33%). Pass

Ball Bounce:

Minimum 90%: Pass

Surface effect/Coefficient of Friction:

Between 80-110: Pass

Vertical deformation:

Maximum 3.5mm: Pass

Sound Insulation: EN ISO 717; 17 dB.

Fire Performance: ASTM E 648; Greater than 0.45 W/cm2, Class 1.

Surface Maintenance Requirements: No-wax surface requiring only cleaning and rinsing.

Slab Moisture Tolerance Installed with Vented Slip-Sheet System: Maximum relative humidity (RH) of 92% when tested according to ASTM F 2170.

* + - 1. VENTED SLIP-SHEET LOOSE-LAY UNDERLAYMENT SYSTEM:
				1. Basis-of-Design Product: Gerflor Isolsport.
				2. Description: Vented slip-sheet vinyl layer installed between the substrate and resilient flooring.

Bottom Texture: Raised texture on the bottom side permits moderate moisture vapor emissions to escape and vent. Systems that are smooth or have indented texture on the bottom side are not acceptable.

Overall Thickness: Not less than 1.65 mm.

Roll Length: Not less than 147 feet, 6 inches (45 m).

Roll Width: Not less than 78 inches (2 m).

Installation Method: Loose laid over existing floor or other substrate.

* + - * 1. Performance Criteria:

Fire Performance Classification: ASTM E 648, Class 1.

Slab Moisture Design Tolerance: Maximum relative humidity (RH) of 92% when tested according to ASTM F 2170.

* + - 1. ACCESSORIES
				1. Trowelable patching compound for standard slab surface preparation: Latex-modified, hydraulic-cement-based formulation provided by flooring manufacturer.

Basis-of-Design Product: GerPatch, Gerflor’s patching compound.

Slab moisture tolerance: Same slab moisture tolerance as the adhesive.

* + - * 1. Adhesive for adhering Sport floor to top of vented slip-sheet:

Water-resistant type recommended by athletic flooring manufacturer.

Basis-of-Design Product: Gerflor T-111 Two-part urethane adhesive

* + - * 1. Heat Welding Rod: As supplied by indoor resilient flooring manufacturer. Color shall blend with resilient flooring color.
				2. Game-Line and Marker Paint: Complete system including primer, compatible with flooring and recommended by flooring and paint manufacturers.
1. EXECUTION
	* + 1. EXAMINATION
				1. Verify the Following:

The area in which the indoor resilient flooring will be installed is dry, weather-tight and in compliance with specified requirements.

Permanent heat, lighting and ventilation systems are installed and operable.

Other work, including overhead work, that could cause damage, dirt, dust or otherwise interrupt installation has been completed or suspended.

No foreign materials or objects are present on the substrate and that it is clean and ready for preparation and installation.

Tests to verify that the moisture evaporative rate or substrate relative humidity is within the specified ranges.

The concrete slab surface pH level is within the specified range.

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.

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.

* + - 1. PREPARATION
				1. Prepare substrates according to manufacturer's written recommendations to ensure proper adhesion of resilient flooring system.
				2. Concrete Substrates: Prepare according to ASTM F 710.

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.

Alkalinity Testing: Perform pH testing according to ASTM F 710. Proceed with installation only if pH readings are between 7.0 and 8.5.

* + - * 1. Moisture Testing: Perform ASTM F 2170 relative humidity test and proceed with installation only after substrates have maximum relative humidity (RH) of 92%.
				2. 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.
				3. 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.
				4. Sand the surface of the concrete slab.
				5. 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.
			1. SHEET MULTI-PURPOSE FLOORING INSTALLATION
				1. General:

Comply with resilient flooring manufacturer's installation instructions.

Take necessary precautions to minimize noise, odors, dust and inconvenience during installation.

Fit flooring neatly and tightly to vertical surfaces, equipment anchors, floor outlets, and other interruptions of floor surface.

Extend flooring into toe spaces, door reveals, closets, and similar openings unless otherwise indicated.

* + - * 1. Lay out flooring as follows:

Minimize number of seams and place them inconspicuous areas.

Locate seams as shown on approved Shop Drawings

Stagger seams between Isolsport vented loose-laid slip-sheet underlayment sections and finish Sport flooring a minimum of 7 inches (178 mm).

* + - * 1. 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.
			1. GAME LINES AND LOGOS
				1. 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.
				2. Mask flooring at game lines and logos, and apply paint of color indicated to produce clean, sharp and distinct edges.
			2. CLEANING AND PROTECTION
				1. Perform the following operations after completing resilient flooring installation:

Remove marks and blemishes from flooring surfaces.

Sweep and then vacuum flooring.

Damp-mop flooring to remove soiling.

* + - * 1. Protect flooring from abrasions, indentations, and other damage from subsequent operations and placement of equipment, during remainder of construction period.

END OF SECTION