

No Fault Rubber Turf Playgrounds

Product Specification

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By No Fault Sport Group, LLC
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POURED-IN-PLACE RUBBER (Shredded Blended EPDM) SURFACING FOR PLAYGROUNDS

PART 1 – GENERAL

1.01 WORK INCLUDED

This work includes furnishing and installing the No Fault Rubber Turf. The surfacing manufacturer/installer shall be responsible for all labor, materials, tools, and equipment to perform all work and services for the installation of the surface.

1.02 DESCRIPTION OF SYSTEM & GENERAL CONDITIONS

No Fault Rubber Turf shall be poured-in-place and trowelled to provide for a resilient, seamless rubber surface installed over the specified rigid base. No Fault Rubber Turf is comprised of a Styrene Butadiene Rubber (SBR) base mat with a blend of shredded recycled black and shredded EPDM colored rubber, with both layers being mixed with a non-flammable, non-shrinking, one part moisture cured polyurethane adhesive as recommended by the Manufacturer and capable of bonding to concrete, asphalt or compacted stone. No Fault Rubber Turf shall be stable and slip resistant to comply with, meet or exceed all requirements set forth in the Americans with Disabilities Act (ADA) and the American Standard Testing Methods (ASTM) and Consumer Products Safety Commission (CPSC) for manufactured Safety Surfaces.

1.03 PERFORMANCE REQUIREMENTS

- A. Area Safety: Poured-in-place surface installed within playground equipment use zones shall meet or exceed the performance requirements of CPSC, ADA, ASTM F 1292 and/or CSA Z614-98. The surface must yield both a peak deceleration of no more than 200 G-max and a Head Injury Criteria (HIC) value of no more than 1,000 for a head-first fall from the highest accessible portion of play equipment being installed as shown on drawings.
- B. Accessibility: Children's outdoor play areas shall be in compliance with the Uniform Federal Accessibility Standards (UFAS) FED-STD-795 and the Architectural and Engineer Instructions (9AEI) Design Criteria. The requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) 28 CFR Part 36 that provide equal or greater accessibility than the requirements of UFAS must also be met in children's outdoor play areas.
- C. Poured in place surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable and slip resistant, and shall meet the requirements of current ASTM F 1951 and ASTM F 1292.
- D. IPEMA Certification Required: "In the interest of playground safety, the International Play Equipment Manufacturers Association (IPEMA) provides a Third Party Certification Service whereby a designated independent laboratory, TÜV SÜD America Inc., (TÜV), validates a surfacing manufacturer's certification of conformance to ASTM F1292, Standard Specification for Impact Attenuation Under and Around Playground Equipment. A list of current validated products, their thickness and critical height may be viewed at www.ipema.org."
- E. ASTM STANDARDS REQUIREMENTS

Surface shall comply will all standards applicable to poured-in-place playground safety surface as follows:

- ASTM D 2047 Standard Test Method for Determining the Static Coefficient of Friction
- ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials
- ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
- ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Playground Equipment
- ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
- ASTM 1551-03 / DIN 18-035 for Water Permeability
- ASTM D624 for Tear Strength
- ASTM D412 for Tensile Strength
- ASTM C1959 and ASTM E903 for Solar Reflective Index (SRI)

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- F. Installer Qualifications
 - 1. All materials under this section shall be installed by the Manufacturer or its Certified Installers. The playground surfacing installation shall not be performed by anyone other than the product Manufacturer or its Certified Installers.
 - 2. The installation crew will include at least one member that has completed the OSHA 10 Hour Training course and received certification.
 - 3. The installation crew must have experience of the installation of poured-in-place playground safety surfacing of similar type that is specified, with a minimum of 200 projects completed within the last 12 months.
- G. Manufacturers Qualifications
 - a. Surface Manufacturer must have continuously engaged in the manufacturing of poured-in-place playground surfacing of similar type for a minimum of twenty (20) years.
 - b. Surface Manufacturer must employ persons trained for installation of poured-in-place playground safety surface of similar type to that specified.
 - c. Surface Manufacturer must carry minimum insurance requirements as follows:
 - \$1,000,000 General Liability per Occurrence
 - \$2,000,000 General Aggregate
 - \$2,000,000 Products Completed Operations
 - \$5,000,000 Excess Liability
 - \$1,000,000 Workers Comp. & Employers Liability
 - \$1,000,000 Automobile Liability (any Auto)

1.04 SUBMITTALS

- A. One original hard copy of the submittal package will be supplied with additional copies on individual CD's. Upon request only hard copies shall be supplied.
- B. Manufacturer's descriptive data and installation instructions shall be included.
- C. Manufacturer's details showing depths of wear surface and sub-base materials, anchoring systems and edge details.
- D. A list of all materials and components to be installed, including Manufacturer's name, storage requirements, and precautions, and shall state chemical composition and test results to which material has been subjected in compliance with these specifications.
- E. Test results to substantiate that the product meets or exceeds all ASTM & ADA requirements for each standard listed in Section 1.03 Performance Requirements. Test must be performed and certified by an independent laboratory.
- F. Copy of IPEMA Certification must be provided per project.
- G. Documentation of Contractor Pre-Qualification as stated in Section 1.03 Performance Requirements shall be included.
- H. Documentation of Insurance Requirements as stated in Section 1.03 Performance Requirements shall be included.
- I. Statement signed by the Manufacturer of the synthetic safety surfacing attesting that all materials under this section shall be installed by the Manufacturer or its Certified Installers shall be included.
- J. Upon request, a sample specimen of safety surface proposed for this project shall be provided.
- K. Upon request, a list of all organizations and affiliations of the company offering the product(s) shall be provided.
- L. All bidders must submit Material Safety Data sheets (MSDS) and Product Data Sheets on all materials.

1.05 DELIVERY, STORAGE and HANDLING:

Materials and equipment shall be delivered and/or stored in accordance with the Manufacturer's recommendations.

1.06 PROJECT SITE CONDITIONS:

- A. Synthetic safety surfacing shall be installed on a dry subsurface, with no prospect of rain within the initial drying period, at temperatures recommended by the Manufacturer.
- B. Installation in weather condition of extreme heat, temperatures less than 40 degrees (F), and/or high humidity may impact cure time, and/or the structural integrity of the final product. Immediate surroundings of the site shall be reasonably free of dust conditions and poor particulate air quality will impact the final surface look.

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- C. The Manufacturer's installation manager shall reserve the right to control the project schedule installation based on such factor without penalty to No Fault Sport Group, LLC.
- D. Safety surfacing shall be installed after the playground equipment is installed unless otherwise noted.
- E. Surface installation shall be coordinated by the project manager or designated individual of playground equipment and sub-base installation, with No Fault Sport Group's local production manager and in accordance with No Fault's sub-base requirements.

1.07 WARRANTY:

Surfacing shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship and material for a period of no less than five (5) years or as specified and agreed upon per contract.

PART 2 – PRODUCTS

Product shall be No Fault Rubber Turf as manufactured and sold by No Fault Sport Group, LLC. No Fault Rubber Turf shall consist of synthetic poured-in-place safety surfacing meeting the requirements of this specification and comprised of SBR, EPDM and polyurethane binder. It shall be manufactured and installed by No Fault Sport Group, LLC (800-232-7766 www.nofault.com) and its certified installation crews.

NOTE – Other products will be allowed only if prior approved as per Section 2.03 Product Substitutions & Approved Equals.

2.01 PRODUCT SCOPE

- A. Poured-in-Place Surface System: The poured-in-place surface system shall consist of an impact layer of 100% recycled shredded material mixed with a polyurethane binder, then capped with a wear course consisting of 60% Shredded EPDM and 40% Recycled Black Shredded Rubber also mixed with polyurethane binder. Granular EPDM material is not acceptable.
- B. Poured-in-Place Surface System shall consist of uniform material manufactured in such a way that the top layer meets the requirements as specified herein for wear course layer.
- C. The type of safety surfacing shall be a poured-in-place system and shall be indicated on the drawings.

2.02 MATERIALS

- A. Polyurethane Binder
 - 1. Binder for safety surfacing shall be specifically designed for use with rubber granule material for outdoor installations.
 - 2. Binder is a single component polyurethane pre-polymer formulated using a polymeric foam of Diphenylmethane 4, 4' Diisocyanate (MDI), Amber Viscosity – 4500cps, NCO content – 9.0, Density – 20dc-68, PCF Flash Point - >390dF, Elongation – 550%, Tensile – 3900 lb./sq. in.
 - 3. No toluene diphenyl isocyanate (TDI) shall be used.
 - 4. No filler materials shall be used in urethane such as plasticizers and the catalyzing agent shall contain no heavy metals.
 - 5. Weight of polyurethane shall be no less than 8.5 lbs/gal (1.02 Kg/l) and no more than 9.5 lbs/gal (1.14 Kg/l)
 - 6. COLOR TINTED BINDER WILL NOT BE ALLOWED.
- B. Impact Layer
 - 1. Only 100% SBR may be used.
 - 2. Strands of SBR may vary from 0.5 mm – 2.0 mm in thickness by 3.0 mm – 20 mm in length.
- C. Wear Course Layer
 - 1. Shredded EPDM and Shredded Black particles shall meet requirements of ASTM D 412 and CSA Z614-98 for tensile strength and elongation; and ASTM D 2240 (Shore A) hardness of 55-65, not less than 26 percent rubber hydrocarbons.
 - 2. EPDM shall be peroxide cured with an EPDM content of 26% and shall include a processing aid to prevent hardness with 26% poly content to maintain dynamic testing characteristics, weatherization and UV stability.
 - 3. Recycled Black Rubber shall include 100% recycled SBR.

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4. Size of rubber particles shall be not less than .5 mm – 2.0 mm in thickness by 3.0 mm – 20 mm in length with a minimum EPDM content of 25% by weight and certified letter from Manufacturer stating this content. All rubber shall remain consistent in gradation and size.

2.03 PRODUCT SUBSTITUTIONS & APPROVED EQUALS

- A. All product substitutions must be submitted for preapproval at least fourteen (14) days prior to bid opening date. A complete submittal package, as outlined in Section 1.03 Submittals, must be provided before a substitute product will be considered for preapproval. If the product submitted for preapproval cannot meet all requirements of the submittal package, it will not be considered.
- B. Once all products submitted for substitution have been reviewed, a list of the approved substitutes will be circulated and made available to bidders.

PART 3 – EXECUTION

3.01 SUB-BASE REQUIREMENTS

- A. Owner or Owner's representative shall provide sub-surface in accordance with Manufacturer's recommendation for the project location and application.
- B. The base shall be concrete, asphalt, or compacted stone installed in accordance with Manufacturer's written specifications.
- C. The base shall have positive drainage and shall vary no more than 1/8" when measured in any direction with a 10' foot straight edge. Verify that sub-surfacing drainage, if required, has been installed to provide positive drainage.
- D. Tolerance of concrete or bituminous subsurface shall be within 1/8 inch (3.0 mm) in 10 feet (3050 mm). Tolerance of aggregate subsurface shall be within 3/8 inch (10mm) in 10 ft (3050 mm). Verify that aggregate subsurface has been fully compacted in 2" lifts to 95 percent or greater.
- E. Asphalt base shall be allowed to cure a minimum of fourteen (14) days and new concrete shall be allowed to cure a minimum of seven (7) days prior to commencement of surfacing.
- F. All sub-bases shall be approved by Owner or Owner's Representative prior to installation of the safety surface.
- G. Alternate sub-base material must have prior approval from Manufacturer.

3.02 PREPARATION

- A. Scheduling – No Fault Rubber Turf shall be installed after other sub-contractors are complete, the area is free from pedestrian traffic, and under the conditions as outlined in Section 1.06 Project Site Conditions.
- B. Cleaning - The entire subsurface shall be clean, dry and free from any foreign and loose material.

3.03 INSTALLATION

- A. Impact Layer or Cushion Layer
 1. Polyurethane binder and SBR will be mixed on site in a rotating tumbler to ensure components are thoroughly mixed and are in accordance with Manufacturer's recommendations.
 2. Binder shall be not less than 14 percent (14%), nor more than 20 percent (20%), of the total weight of rubber, and shall provide 100 percent (100%) coating of the particles.
 3. The SBR and binder mixture will then be poured-in-place by means of screeding, and hand-trowelled to maintain a seamless application.
 4. Installation method shall use a measured screed rod 1/16" thicker than the required depth.
 5. Whenever practical, SBR cushion layer shall be installed in one continuous pour on the same day. When a second pour is required, fully coat the edge of the previous work with polyurethane binder to ensure 100 percent bond with new work. Apply adhesive in small quantities so that new SBR mixture can be placed before the adhesive dries.
 6. Total depth of the safety surface system throughout the playground equipment use zone shall be as required to meet the applicable critical fall height requirements or as specified by Owner or Architect. Therefore, thickness of the SBR cushion layer will be total depth less 3/8" (minimum required thickness of the EPDM /Black wear course layer).
 7. Edges - Surface edges shall be flush with edge of adjacent area or tapered to provide safe transition. When connecting to a concrete curb or border, the hardened edge shall be primed with adhesive.
 8. The SBR cushion layer surface shall be porous.

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B. EPDM /Black Wear Course Layer

1. Polyurethane binder, shredded EPDM and SBR black recycled shredded material will be mixed on site in a rotating tumbler to ensure components are thoroughly mixed and are in accordance with Manufacturer's recommendations.
2. The binder shall be not less than 20 percent of total weight of rubber used in the wear surface, and shall provide 100 percent coating of the particles.
3. The EPDM / Black SBR and binder mixture will then be poured-in-place by means of screeding, and hand-trowelled to maintain a seamless application.
4. Installation method shall use a measured screed rod 1/16" thicker than the required depth.
5. Thickness of wear course layer shall be a 1/2" nominal depth (3/8 inch minimum).
6. The wear course layer shall be porous.
7. If graphic designs and color transitions are used, they shall be full wear course depth. Color selection to be approved by architect.
8. Edges - Surface edges shall be flush with edge of adjacent area or tapered to provide safe transition.
9. Large Areas - All areas in excess of 2,000 sq. ft. or that require adjacent color pours will have a cold joint or seam due to the nature of the installation process. Although seldom visible, large areas or adjacent colors require the No Fault Rubber Turf material to be installed on separate days.
10. Color Selection: The wear course layer shall be a blend of 40% shredded black and 60% shredded EPDM (color) chosen by the architect or owner during the submittal process, unless otherwise stated on plans.

3.04 PROTECTION

- A. The synthetic safety surface shall be allowed to fully cure in accordance with Manufacturer's instructions. The surface shall be protected by the Owner from all traffic during the curing period of 48 to 72 hours after surface installation is complete, or as instructed by the Manufacturer.
- B. Surface installation crew shall be responsible for the protection of No Fault Rubber Turf during the installation process. Owner or general contractor shall be responsible for the protection of the surface during the crew's off hours and during the curing period upon completion of the installation.

3.05 CLEAN UP

- A. Manufacturer's installers shall not leave adhesive on adjacent surface or play equipment. Spills of excess adhesive shall be promptly cleaned.
- B. Manufacturer's installers shall properly dispose of all material and packing waste before leaving the job site.
- C. Owner or general contractor shall be responsible for supplying a dumpster at job site for all waste associated with installation of the safety surface.

**FOR INDIVIDUAL PROJECT SPECIFICATIONS OR OTHER INFORMATION
INCLUDING FALL HEIGHT REQUIREMENTS, PLEASE CONTACT
NO FAULT SPORT GROUP, LLC
866-637-7678 (toll free)
WWW.NOFAULT.COM**