

Playpave™ EPDM Pour in Place Rubber Safety Surfacing

Manufacturer Specification

Summary:

Playpave EPDM Pour-in-Place Rubber Safety Surfacing is a fully integrated playground safety surfacing system designed to provide resilient, slip-resistant, and UV-stable protection for playground areas. The system consists of a poured-in-place SBR impact cushion layer and a colored EPDM wear layer, both bound with a moisture-cured polyurethane binder. Installation is carried out exclusively by Playpave LLC. or certified installers, following strict quality assurance standards and compliance with ASTM requirements for impact attenuation, slip resistance, and accessibility. Submittals required include detailed drawings, color options, safety data sheets, warranty documentation, and proof of insurance, alongside rigorous installer and contractor qualifications. The system is adaptable to various substrates, such as concrete, asphalt, or compacted stone, and requires meticulous site preparation and base construction.

Maintenance and warranty provisions are clearly defined, with a five-year warranty covering defects in materials and workmanship, provided the Owner follows prescribed maintenance—including biennial application of Playpave Sealer and adherence to care instructions. The surface must be kept clean and free of debris, and Playpave supplies comprehensive care guidelines. Physical properties of the EPDM and SBR materials meet stringent safety and environmental standards, ensuring durability and non-toxicity. Installation involves a multi-layer process with specific binder ratios, thicknesses, and curing times, and final acceptance is contingent upon a thorough inspection and documentation confirming compliance with all specifications.

Part 1: General Specifications

1.1 Work Included

- Provide all labor, materials, equipment, and supervision necessary for the supply and installation of Playpave EPDM Pour-in-Place (PIP) rubber safety surfacing as specified herein.
- Identify all areas of application and complete a fully integrated poured-in-place safety surfacing system in accordance with these specifications.
- Scope of work includes, but is not limited to:
 - Surface Coverage: Resilient poured-in-place rubber surfacing for playground use.
 - Supplementary Work: Coordination with playground equipment installation and preparation of a resilient surfacing sub-base.
 - Quality Assurance:

- The manufacturer/installer shall have a minimum of five (5) years of experience producing and installing poured-in-place playground safety surfacing.
- All materials and installation methods shall comply with ASTM F1292 impact attenuation requirements.
- Installation of the Playpave EPDM PIP system shall be performed by Playpave LLC. or Playpave-certified installers only.
- Manufacturer installation procedures shall be submitted for review by the Architect and incorporated into the bid documents.

1.2 Submittals

- Product data for Playpave EPDM PIP safety surfacing, including installation procedures and maintenance instructions.
- Detailed shop drawings showing edge conditions, transitions, thicknesses, and cross-sections.
- Color palette illustrating available EPDM color options.
- Material Safety Data Sheets (MSDS) for all system components.
- Sub-base preparation and drainage requirements.
- Details for transitions to adjacent materials and beveled edges.
- Warranty documentation outlining duration, exclusions, remedies, and compliance procedures.
- Declaration confirming adhesives are purpose-designed for playground safety surfacing.
- Third-party certification for testing at three temperature drops.
- Proof of General and Liability Insurance with minimum coverage of \$4,000,000.
- A minimum 3" x 3" physical sample of the surfacing system.

1.3 Definitions

- EPDM Granules: Ethylene Propylene Diene Monomer synthetic rubber meeting ASTM D-1418 (M-Class).
- SBR: Styrene-Butadiene Rubber, a synthetic rubber used for impact-absorbing base layers.
- Aromatic Binder (MDI): A moisture-cured binder used to encapsulate EPDM and SBR granules.
- Aliphatic Binder: UV-stable binder resistant to ambering or blooming.
- Critical Fall Height (CFH): Maximum fall height for playground equipment as defined by ASTM F1292.
- PIP: Pour-in-Place rubber surfacing (also known as wet-pour).
- GMAX: Measurement of surface hardness related to impact attenuation.

1.4 Quality Assurance

A. Applicable Standards

Playpave EPDM PIP surfacing shall meet or exceed the following:

- Impact Attenuation: ASTM F1292 / CPSC
 - Maximum peak deceleration: ≤ 200 g
 - Head Injury Criterion (HIC): ≤ 1000
- Coefficient of Friction: ASTM D2047
- Slip Resistance: ASTM E303
- Permeability: ASTM D2047
- Flammability: ASTM D2859
- Accessibility: ASTM F1951
- Tear Strength: ASTM D624
- Tensile Strength: ASTM D412 (minimum 80 PSI)
- Solar Reflective Index (SRI): ASTM C1959 / E903

B. Installer Qualifications

- Installation shall be completed exclusively by Playpave LLC. or Playpave-certified installers.
- Installation crew shall include at least one certified installer with a minimum of five full seasons of experience installing Playpave systems.

C. Contractor Pre-Qualifications

- Submission of a portfolio with ten (10) comparable projects, including contact references.
- At least five (5) projects must be over five years old.
- Projects should demonstrate similar complexity, including graphics and color transitions.
- Submission of MSDS and product data sheets.
- Proof of minimum \$4,000,000 General Liability Insurance.

1.5 Warranty

- Playpave LLC. shall provide a written warranty to the Owner covering defects in materials and workmanship of the rubber surfacing system for a period of five (5) years from the date of Substantial Completion.
- The warranty shall cover normal wear and tear associated with standard use of the surface. The warranty shall expressly exclude damage resulting from vandalism, punctures caused by high-heeled footwear or sharp objects, acts of war, or acts of God and other events beyond the reasonable control of the Owner or Playpave LLC.
- Warranty remedies shall be limited solely to the repair or replacement of the defective areas, at Playpave LLC's discretion. Such remedies shall include the provision of all necessary materials, labor, and reasonable transportation costs required to complete

the corrective work. The warranty shall not extend to consequential or incidental damages unless otherwise required by law.

- Playpave LLC. shall provide instruction to the Owner's designated personnel regarding proper maintenance procedures and minor repair methods for the Playpave EPDM PIP system to ensure continued performance and longevity.
- All warranties, whether expressed or implied, shall be contingent upon the following conditions:
 - Installation of the safety surfacing system must be performed exclusively by Playpave LLC.
The Owner shall, at their sole expense, have a Playpave Sealer maintenance application performed at two (2) year intervals commencing from the date of Substantial Completion.
 - The Owner shall remit full payment of all applicable invoices and comply with all prescribed maintenance requirements and care procedures as outlined by Playpave LLC.
 - Failure to meet these conditions may render the warranty null and void.

1.6 Maintenance

- Playpave shall provide maintenance and care instructions to the Owner.
- Include cleaning procedures, inspection schedules, and repair methods.
- Playpave Sealer (or approved equivalent) recommended every two (2) years.
- The surface shall be kept free of debris to extend lifespan.

Part 2: EPDM Material Specifications

2.1 System Description

- Playpave EPDM PIP Rubber Surfacing is a seamless poured-in-place rubber system consisting of:
 - SBR impact cushion layer
 - EPDM colored wear layer
- Both layers are bound using a 100% solids, moisture-cured polyurethane binder.
- This system is porous, slip-resistant, UV-stable, and installed at variable thicknesses to meet CFH requirements.
- Compatible substrates include concrete, asphalt, and compacted stone.

2.2 Physical Properties

EPDM Granules

- Angular cut, 1–4 mm
- $\geq 20\%$ polymer content (EPDM only)
- Tensile strength: >5 MPa
- Elongation: 600–700%
- Hardness: 60–65 Shore A
- Density: 1.5 g/cm^3
- REACH & EN 71-3 compliant

SBR

- Angular or buffings cut
- Polymer content $\sim 50\%$
- Moisture $< 1\%$
- Free of metal and fiber contaminants

Binder

- Single-component moisture-cure polyurethane
- Aliphatic or aromatic
- Installation temperature $> 41^\circ\text{F}$
- Non-pigmented (clear or amber)
- Cure time: 6–8 hours at 77°F

2.3 Safety & Environmental Compliance

- PAH compliant (REACH / AfPS GS 2019)
- EN 71-3 compliant
- PFA Free
- Latex free binder and granules
- Non-toxic once cured
- No TDI binders with filler minerals permitted

Part 3: Site Preparation and Base

3.1 Site Conditions

- Substrate must be dry, clean, and free of debris.
- Installation shall not proceed during rain or unsuitable weather.
- Playpave reserves the right to adjust installation schedule based on conditions.

- Installation occurs after playground equipment placement unless noted.

3.2 Base Construction

- Owner or GC responsible for sub-base preparation per Playpave guidelines.
- Acceptable bases: compacted stone, concrete, or asphalt.
- Minimum slope: 2%
- Asphalt cure: 21 days
- Concrete cure: 30 days
- Granular base: 4–6 inches at 95% compaction
- Geotextile fabric required with 20 cm overlap
- Surface preparation may include scarifying or etching

Part 4: Execution and Installation

4.1 Surface Installation

Primer

- Apply urethane primer at 200–250 sq ft/gal.
- Prime immediately prior to rubber installation.

SBR Impact Layer

- Mix on-site per manufacturer guidelines.
- No less than 1" thickness, with thickness based on CFH
- Binder ratio: 16% by weight.
- Trowel to specified depth and cure 24 hours.

EPDM Wear Layer

- EPDM mixed at 22% binder by weight.
- Installed thickness: ½" to 1" per specification.
- Seam overlaps minimum 1.5 inches.
- Cure time: 24–72 hours.

Foot traffic damage is excluded from warranty unless security and fencing is provided by Playpave.

4.2 Site Requirements

- Site access for installation equipment required.
- Owner/GC responsible for overnight security.

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- Optional fencing available at additional cost.
- Site to be left clean and free of debris.

4.3 Final Acceptance

- Final inspection to confirm compliance with all specifications and standards.
- Submission of final documentation and compliance report required.

This outline should be tailored to the specific needs of the project, taking into account local regulations, environmental conditions, and user requirements.

Collaboration with a professional experienced in PIP rubber surfacing is recommended to ensure that all technical details are adequately addressed.

**For individual project specifications or other information including Critical Fall Height requirements please contact Playpave LLC. 1-(603) 800 6716
office@playpave.com**