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## Poured-In-Place Product Specification

### **Part 1 – General**

#### **1.01 Work Included**

This work includes furnishing and installing the East Coast Surfacing, Inc. recycled poured-in-place safety surfacing.

East Coast Surfacing, Inc. recycled poured-in-place safety surfacing shall be poured in place and trowelled to provide for a resilient, seamless rubber surface installed over the specified base. The surfacing provider shall be responsible for all labor, materials, tools and equipment to perform all work and services for the installation of the surface. The surface shall be slip resistant and comply with all requirements set forth in the American with Disabilities Act.

#### **1.02 Quality Assurance & Compliance Details**

Impact Attenuation – ASTM F1292-04: Impact attenuation test results will be provided to the owner or owner's representative. These test results shall be certified and submitted on the letterhead of an independent testing lab. Impact attenuation test results shall meet or exceed Consumer Product Safety Commission for impact attenuation (G-max and Head Injury Criteria (HIC).

Accessibility of Surface Systems – ASTM F1951-08: Standard specifications for determination of accessibility of surface systems under and around playground equipment.

Coefficient of Friction – ASTM D2047: All products must meet a minimum standard on coefficient of friction of .7 wet, .9 dry.

Permeability: Product shall meet or exceed a coefficient of permeability of 0.4 gallons per square yard per second.

Flammability of Finished Floor Cover – ASTM D2859: Product shall meet requirements of ASTM D2859.

#### **1.03 Qualifications**

- a. Material under this section shall be installed by the East Coast Surfacing, Inc.'s certified installers. The playground surfacing installation shall not be performed by anyone other than the Manufacturer's certified installers.
- b. A list of five (5) surfacing projects completed with a similar product. List shall include names and project representatives and respective telephone numbers. At least three (3) of these projects must be at least five (5) years old.

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## Part 2 – Products

East Coast Surfacing, Inc.'s recycled poured-in-place safety shall consist of synthetic materials meeting the requirements of this specification. It shall be installed by East Coast Surfacing, Inc.'s (410-639-2303) certified installation crew.

### 2.01 Materials

Polyurethane Primer and Binder: An elastic polyurethane pre-polymer binder shall be 100% MDI based and contain 0% TDI monomers and 0% VOC.

- a) Aromatic Binder – All projects shall include aromatic binder BTR-1103 or BTR-1119 unless project specifies the use of aliphatic binder. The natural properties of the aromatic binder are to present a yellow tint which may cause some EPDM colors to amber. The yellowing affect will wear off with foot traffic and weathering.
- b) Aliphatic Binder – This binder is available upon request but at an added cost. Projects requesting aliphatic binder must use BTR-1103-UV or BTR-1119-UV. This binder is all clear and provided full EPDM color from day one. This binder has a higher resistance to ultra violet light and provides a greater resistant to wear.
- c) Impact Course: The impact layer is to be a precise combination of 100% recycled black Styrene Budadine Rubber (SBR) and polyurethane binder. Recycled SBR rubber shall be ground into typical 3/8" long by 1/16" wide shredded strands, free of fiber and steel fragments. The impact course is to be hand-trowelled to create a uniform consistency to the thickness as specified by owner or architect.
- d) Wear Course: The wear course is made of Ethyl Propolyne Dione Monomer (EPDM) with polyurethane binder. EPDM granules shall be 1-3.5/4 mm in diameter and contain less than 2% dust. Thickness of the wear course shall be a minimum of 1/2".

## Part 3 – Execution

### 3.01 Sub-Base Requirements

Sub-base Requirements – The base shall have the specific minimum slope (2%) and shall vary no more than 1/8" when measured in any direction with a 10' straight edge.

Stone – The density requirement is 95% or greater compaction with final condition of stone as level and stable so as not to shift when traveled on or during surface installation process. The owner or owner's representative is responsible for a compaction test prior to installation of the poured-in-place surfacing. Failure to provide proof of compaction test will void all warranties of the PIP surfacing should signs of sub-base failure occurs.

- a) Depth: 4 inch minimum thickness.
- b) Slope: Stone elevation shall maintain 1/4" per foot toward low end.
- c) Porosity: Base course shall maintain porosity for direct drainage.
- d) Enclosure: Stone base course must be surrounded by a retaining curb.
- e) Drainage: Subsurface drainage is recommended under and around stone base. Perforated pipe or similar system is acceptable.

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- f) Tolerances: ¼" in any 10-foot direction and 1/8" in any 3-foot direction.

Concrete or Asphalt – Concrete shall be finished with a medium broom finish. All new concrete slabs must cure for a minimum of seven (7) days prior to installation. All new asphalt must cure for a minimum of (14) days. Once the new asphalt is cured, it must be pressure washed prior to installation of the surfacing. The concrete contractor shall be responsible for flooding the pad to insure proper slope and tolerance.

- a) Depth: 4 inch minimum thickness.  
b) Slope: Concrete or asphalt shall maintain ¼" per foot.  
c) Tolerance: Concrete must maintain a tolerance of 1/8" in 10 foot to avoid low areas that will hold water under the rubber surfacing.

### 3.02 Preparation

Scheduling – East Coast Surfacing, Inc. shall be installed after other sub-contractors work is completed and the area is to be free of pedestrian traffic.

Cleaning – The entire subsurface area shall be clean, dry and free from any foreign and loose materials.

Access – Site will require tractor-trailer access. In a case where tractor-trailer access is not possible, owner or general contractor shall be responsible for transporting materials from delivering carrier to installation site.

Utilities & Waste Disposal – Power and water must be available within 300 feet of installation. Owner or general contractor shall be responsible for having a dumpster on site for all waste and debris. Failure to provide a dumpster will result in additional cost.

### 3.03 Installation

Thickness – Overall depth of the PIP safety surfacing will vary based on critical fall heights and the installers test results, and/or as specified by owner or owner's representative.

Weather – Temperatures must be above 40 degrees (nighttime) and 50 degrees (daytime), these temperatures must be consistent for several days before and after the poured rubber installation period. Complying with these weather conditions will prevent poured rubber from freezing which prevents proper curing.

SBR Cushion Layer – The impact course must consist of recycled rubber and be free of foreign debris.

- a) Polyurethane binder and SBR will be mixed on site in a mechanical drum mixer to ensure components are thoroughly mixed and are in accordance with manufacturer's recommendations.  
b) Binder shall not be less than 18 percent (18%) or more than 22 percent (22%), of the total weight of the rubber and shall provide 100 percent 100% coating of the particles.  
c) The SBR and binder mixture will then be poured-in-place by means of screeding and hand-trowelled.  
d) 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.

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EPDM Wear Course Layer – The wear course must compose of EPDM granules only and be installed at a ½” minimum thickness.

- a) Polyurethane binder and EPDM will be mixed on site in a mechanical drum mixer to ensure components are thoroughly mixed and are in accordance with manufacturer’s recommendations.
- b) The binder shall not be less than 20 percent (20%) of the total weight of the rubber used in the wear surface and shall provide 100 percent (100%) coating of the particles.
- c) The EPDM and binder mixture will then be poured-in-place by means of screeding and hand-trowelled.
- d) The cap will have a minimum weight of 2.2 pounds per square foot.
- e) Surface edges shall be flush with edge of adjacent area or tapered to provide safe transition.
- f) All areas in excess of 2,000 square feet 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 East Coast Surfacing, Inc.’s material to be installed on separate days.
- g) Colors will be chosen by the owner or owner’s representative.

### **3.04 Protection**

Curing -The synthetic safety surface shall be allowed to fully cure in accordance with manufacturer’s instructions.

Security – Owner or general contractor shall be responsible for the protection of the surface during the curing period upon completion of the installation and overnight during the installation.