Architects Product Specifications
2011

ECO-Rubber RTP: POROUS RECYCLED RUBBERIZED SURFACING
Suitable for:
** RUBBERIZED PATHWAYS*
** ATTENUATED ANTI-FATIGUE EXERCISE TRAILS*

DESIGN CRITERIA:

a.) The Surface System shall have been marketed by name within the United States for at least ten (10) years.

b.) The installation of the Surfacing specified herein and indicated on the Drawings shall be performed by an organization who can furnish supporting evidence of rubberized surfacing installation experience, a company regularly engaged in this type of work on a full time basis for a period of not less than 10 years.

c.) The installation of the Surfacing must be executed by experienced mechanical applicators who are factory trained and approved RTP installation contractors.

d.) The raw materials used to formulate the bonded rubberized surfacing and the mechanical installation methodologies used to manufacture the finished product must validated by the customer prior to surfacing being installed.

e) An authorized factory trained representative of RTP must approve and endorse in person the authenticity and correctness of the completed surfacing once installed, whose signed authorization must appear on certificates of completion used for payment submittals.

f) Bonded rubber surfacing must be mechanically applied and fully compacted while installing to manufacturers installation specifications.

SUBMITTALS:

a.) Samples:
1.) Submit Samples of the following for approval by the Engineer.
a.) 12 inch x 12 inch samples of 1 ½" of surfacing material compacted and compressed to 1".

PRODUCT TESTING MANDATED:

a.) ***Shock Absorbency:*** *When tested in accordance with ASTM F-1292, the surface shall not impart to the head form upon impact, a peak deceleration exceeding 200 times the acceleration due to Gravity (200 G's). Drop height used in this test shall be at 4'. Successful attenuated testing passes must be documented a poured in place material depth of 1 ½".*

b.) ***Slip Resistance****: Wet dynamic reading shall not be less than 40 when tested in accordance with ASTM E 303, using British Portable Skid Resistance Tester.*

c.) ***Flammability:*** *Minimum Critical radiant flux of 0.22 Watts/CM2 when tested in accordance with ASTM E 648.*

1) *Particulate Rubber Particles must successfully pass ASTM standard CFR 1630 for flammability of carpet and rugs.*

d) ***Rubber Buffing Material****: Passes Long-Strand Water Permeability per USTC Test Procedure*

1) *Rubber Buffing Long-Strand Material Passes ASTM E 303 Test for Skid Resistance*
2) *Rubber Buffing Long-Strand Material Passes ASTM D412-98a Test for Tensile & Elongation Properties*
3) *Rubber Buffing Long-Strand Material Passes ASTM C501-84 (96) Test forAbrasive Wear*
4) *Rubber Buffing Passes Accelerated U.V. Colored Buffing Test Rating a 'No Change when exposed to 420 AFU's – Testing Methodology AATCC 16E for loose-particle Rubber Buffing*
5) *Buffing Material Passes Accelerated Wear Test Rating when bonded by Urethane showing 'No Change' of 20,000 foot counts – Testing Methodology CRI TM-101 for rubber bluffing bounded together as a solid surface as a rubber walking surface.*

e) ***Water Leaching Test****: Passes Department of Health SW-846 test method for the chemical analysis and evaluation of water and solid waste materials.*

SITE CONDITIONS:

a.) *Manufacturer's current installation methodologies and procedures must be used and adhered to on the Project.*

b.) Proceed with work of this section only after substrate construction and penetrating work has been compacted to 90+% of dry density.

c.) Do not proceed with work during inclement weather. Comply with manufacturer's recommendations for application and curing under specific climatic conditions.

e.) Conditions of substrates with respect to structural performance shall be evaluated and approved by a Factory Representative prior to applying the surfacing.

f.) At the time of application ambient air temperature shall be 40 Degrees Fahrenheit or greater and remain so during the duration of the product installation.

g.) Adjacent Material along with the rubberized surfacing shall be protected and secured by the customer during the installation process, while curing from weather and other site related damaging.

SITE PREPARATION GENERAL:

a.) A 90+% Compacted Sub-Straight is required over the base material is required for the installation of RTP pathway surfacing. Optional use of Geo-Textile membrane fabric for weed-blocking may be preferred.

SUB – BASE
CONSTRUCTION SPECIFICATIONS

A solid sub-surface such as concrete or asphalt is the preferred for Standardized RTP rubberized surfacing installations.
The following information is provided herein a brief guideline. It is important to note that proper installation of the aggregate sub-surface is one of the most critical and most often overlooked aspects of a rubberized surfacing project. Due diligence is recommended when preparing the sub-surface or selecting a sub-surface contractor.

1. Evaluate existing drainage. If the installation area is lower than the adjacent grades and collects water or if there are standing puddles on the sub-surface, a sub-surface water drain system must be installed. It is recommended that an individual with drainage experience such as a soil or civil engineer inspects the site prior to commencement of the installation.

2. Remove topsoil until solid, packed and stable sub-soil is visible and level. (Test sub-soil for rebound). If sub soil is of poor quality then there is a

possibility that geo-textile cloth may be necessary between the sub-soil and the granular sub-surface.

3. An installation retainer edge is sometimes needed. Various edging options are available including, rubber flex curbs, wood, plastic and concrete boarder edging can be installed both above and below grade.

4. Install 4-8 inches of "Granular A" aggregate (terminology varies by region). Contact local soil engineers for detailed local aggregate specifications and performance expectations. Granular A shall consist of crushed rock composed of hard, fractured fragments free of clay coatings. Granular A shall be produced from bed rock gravel, cobbles or boulders of uniform quality. Granular A may also contain a blend or combination of crushed gravel, sand and fines produced from naturally formed deposits, crushed slag produced from air-cooled iron blast furnace or nickel slag, reclaimed Portland cement concrete or reclaimed asphalt pavement material. Install material in 3 to 4" layers.

5. Rolling Packer – It is critical that the base be properly compacted. Without adequate sub-surface compaction the planarity of finished surface will change as the sub-surface planarity changes. Use a rolling vibrating packer or equivalent to reach 95% standard proctor density. Complete multiple passes in both directions. Assist packing by wetting aggregate if necessary.

6. This portion is dependent on region and aggregate materials obtained locally. Level sub-surface aggregate to +- ¼" over 10' measured in any direction. To ensure proper grade install ½" of ¼" minus granite screenings or "chips and dust" over the final compacted and leveled sub-surface. This material is used to fill in any undulations in grade of the packed aggregate. Pack material as stated above.

7. Extend granular base 3-4" past edge of installation. When no solid retainer edge is going to be used at the edge of the installation, then the granular base must be sloped off at a 4" rise in 12" run. Slope for 12 linear inches or until the packed subsurface is 4" below finished grade of the adjacent surfacing. This prevents a tripping hazard in the event the adjacent loose fill surface erodes and exposes the edge of the resilient surface.

8. Base surface slope to be 2% in order to ensure adequate water drainage.

9. Inspect final packed aggregate base. It is important to carefully inspect any base supplied by an outside contractor.

MATERIALS:

Primer: *Single component moisture cured RTP AR 55200 polyurethane primer.*

Binder: *An elastic polyurethane pre-polymer with minimal odor, excellent weathering and binding characteristics. The use of RTP AR 55200 Urethane is specific to and required for this project. Supplier must verify the use supply of urethane specified for this project. No "as equal" urethane bonding agent substitutions are permitted.*

Rubber Buffing RTP 3125: *RTP # 3125 colored rubber buffing particles are used for purpose of mechanically compacted rubber trail surfacing and its proprietary sizing is class sized specific to; and for use of and to manufacture bonded rubber trail surfacing. RTP 3125 Rubber Buffing consists of100% recycled tire-buffing product is color pigmented by way and use of iron oxide pigments.*

The body and proportionate formulation of RTP #3125 of Rubber Buffing consists of rubber particles ranging in size from 1/2" to 2" that when mixed to proper proportion meet or exceeds the following basic criteria in addition to the product testing mandated for the product specified.

1) Rubber Buffing Material is Non-Toxic
2) Rubber Buffing Material is Anti-Fungal
3) Rubber Buffing Material is Non-Absorbent
4) Rubber Buffing to Avert Nesting of Insects
5) Rubber Buffing is consistent of proportionate Long-Strand Particles
6) Rubber Buffing is 100% free of wire, and cotton/polyester contaminates

WARRANTY:

a.) *Provide a written warranty stating that work executed under this Section will be free from defects of materials and workmanship for a period of two years from date of Substantial Completion, and that material breakdown and unraveling will be remedied on written notice at no additional cost to the Owner.*

b.) *The Warranty shall be supplied in writing, and honored by Contractor. Contractor shall Warranty removal and replacement of materials as required repairing or replacing PIP surfacing.*

c.) *Customer testimonials which can document ten (10) years of tenured experience are required and must be submitted; inclusive of the bidders proposal bid package.*