

## SECTION 32 12 18 – MULTI-PURPOSE SURFACE

### PART 1 GENERAL

#### 1.1 DESCRIPTION

Single layer, multi-purpose, monolithic, flexible, poured in place system, developed for roof tops, pool surrounds, overlays, jogging tracks and trails.

#### 1.2 SECTION INCLUDES:

- A. The complete installation of a poured in place, single layer, monolithic, resilient, polyurethane-bound synthetic rubber surface, uniformly paved, that is UV resistant and ADA compliant.
- B. The system is a specially formulated multi-component rubber and resin composite system, formed by mixing, pouring and leveling. The single layer surface is composed of proprietary polyurethane binder and synthetic virgin rubber granules or EPDM. Specific work consists of furnishing all the required labor, materials, equipment, parts, and supplies necessary for the installation of this synthetic rubber surface. Layout required and specified by current owner or architect.
- C. Color Wear Surface Layer: Terracotta Red, Cocoa Brown (Other colors available upon request)

#### 1.3 SUBMITTALS:

- A. Samples:
  - 1. Submit (1) Specified Rubberway labeled sample of multi-purpose, project specific, 4" x4" square in full thickness of color selected by owner or architect.
  - 2. Submit (1) Copy of Manufacturer's Technical Data sheets on each product to be used.
  - 3. Submit (1) Rubberway Multi-purpose Installation Overview
  - 4. Submit (1) Color Chart representing manufacturer's color options
- B. Contractor's Project References:
  - 1. Submit a list of successfully completed projects. Include project name, location, and type and of surfacing installed.
- D. Close Out Submittals:
  - 1. Submit (1) Manufacturer standard product warranty/ Signed by company officer with company corporate seal
  - 2. Submit (1) Standard labor warranty.
  - 3. Submit (1) Project specific surface care and maintenance guide.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer must have a minimum of 15 years manufacturing with the products specified.

## **SECTION 32 12 18 – MULTI-PURPOSE SURFACE**

- B. Contractor's Qualifications: The contractor's installing foreman must be a Certified Rubberway installer or authorized agent and have specialized or similar experience installing and performing the work of this section that is required for this project.
- C. Multi-purpose system shall be installed by Certified Rubberway authorized factory trained technicians only, to be warranted.
- D. Certified Rubberway Onsite Technical Training Directors are available for hire, to oversee and train uncertified, qualified contractors, interested to become certified on a given project. Independent contractor consulting fees will be applicable for oversight supervision services being requested

### **1.5 DELIVERY AND STORAGE**

- A. Delivery of Materials: Materials should be delivered to jobsite in unopened container, with labels clearly identifying the product name and manufacturer. Maintain clean and dry conditions. See manufacturer's guidelines for temperature requirements for the locale of the installation.
- B. Storage of Materials: The Trade Contractor shall provide a secure, clean, dry location for storage of materials at temperatures above 55°F. Under no circumstances should materials be stored outside unless fully protected from moisture with 10 mil polyethylene barrier and tarpaulin. All materials stored outside shall be inspected by dealer for moisture contamination before application.

### **1.6 PROJECT SITE CONDITIONS**

- A. Rubber surfacing must not be applied until other trades are finished in the area and surrounding area. Environmental site conditions must be between 55 and 85 degrees F. When curing, the temperature may not fall below 45-degrees F. Do not install surfacing when sub base is wet or frozen.
- B. Base shall be free of any materials and released to the applicator clean and in good condition.
- C. Upon completion of installation, installer shall remove all unused materials, tools, equipment, and rubbish.
- D. No smoking, open flames, or sparks from electrical equipment shall be permitted during the application of materials.

### **1.7 GUARANTEE**

- A. The rubber pavement surface shall be guaranteed against defects in materials for (10) ten years.

## **PRODUCTS**

### **2.1 MANUFACTURER**

**SECTION 32 12 18 – MULTI-PURPOSE SURFACE**

- A. Acceptable Manufacturer: USSA, Inc.  
 Telephone: 877-288-0045  
 US Headquarters, West Coast: 4000 Barranca Parkway Suite 250, Irvine, CA. 92604  
 East Coast: 275 Greenwich Ave. Suite A, Greenwich, CT 06830  
 Mid Atlantic: 825 10<sup>th</sup> St. NW suite 755 Washington DC, 20001  
 email: [info@rubberway.com](mailto:info@rubberway.com)  
 web: [www.rubberway.com](http://www.rubberway.com)
1. All materials made in the USA. Acceptable polyurethane manufacture is Rubberway, Inc.
  2. All materials must be obtained through and acceptable to manufacturer.
- B. Substitutions: Not Permitted. Requests for substitutions will be in accordance with provisions provided by owner.

**2.2 MATERIAL TESTING AND CHARACTERISTICS REQUIREMENTS:**

	<u>Test Results</u>	<u>DIN Standard</u>
Standard Deformation:		
At 0 degrees C	0.85mm	0.6mm - 1.8mm
At 23 degrees C	1.09mm	(temp range 0 degrees -
At 40 degrees C	1.36mm	40 degrees C
Tensile Strength:	0.58N/mm	min 0.5N/mm <sup>2</sup>
	78%	min 40%
COF ASTM C1028-07:	Dry 0.94	dry < 1.1
	Wet 0.76	wet < 0.5
Penetration Characteristics:	0.71mm	max 1.00mm
Burning Characteristics:	Class 1 to DIN 51960	
Wearing Behavior:	1.1 min	1.0
Ageing:	QZ no value < 0.75 tensile strength min 0.75 QB no value < 0.75 ultimate strain min 0.75 QE no value < 0.75 QE min 0.75 QE no value > 1.25 QE max 1.25 No color value color transfer min 3 degrees < 3 degrees	

All Materials shall have documented independent test results by an accredited IAAF testing house to the requirements of the IAAF Performance Specifications for Synthetic Surface (Outdoor) dated January 1990.

The following details have been taken from the Centre of Sports Technology, London, Laboratory Report L-0306 dated 16th March 1992 and shall be used as minimum standard for this project:

	<u>TEST RESULT</u>	<u>MINIMUM SPEC</u>
Sample thickness: (mm)	14.6mm	>12
Force Reduction (percentage)	39.1%	35.50%
Modified vertical deformation (mm)	1.13	0.6-1.8
Friction - TRRL	58	>47
Tensile Strength: (Mpa)	0.52	>0.5

## SECTION 32 12 18 – MULTI-PURPOSE SURFACE

Elongation at break (Percentage)	69	>40	
Flammability	Passes		D 2859
Flammability	Passes		UL 94
ADA Compliant	Yes		Yes
Solar Reflectance Index Value (Grey)	31		ASTM E 1980-11

Environmental Compatibility – This system has been tested by the independent testing laboratory, Messrs FMPA, Germany, Test Report RAL KB 010205, confirming the requirements relating to the environmental compatibility are fulfilled in all points by the Synthetic Surface.

### 2.3 MATERIALS:

- A. **BONDING AGENT:** Must have the capacity to bind with: Rubber, wood, steel, concrete, aluminum, asphalt, or waterproofing membrane. Binder: Delivered in 5 gallon pails, drums or totes. Labeled RUBBERWAY 3000.
- B. **RUBBER GRANULE:** EPDM-Rubber Hydrocarbon – Delivered in 55 lb bags. Color and size as selected by owner or architect.

## PART 3 SUB-BASE

### 3.1 RELATED WORK FOR SUB-BASE OPTIONS

- A. **EXAMINATION:** Do not begin installation until substrates have been properly laid and fully cured and inspected by an authority approved by the owner. Make sure a systems check has been conducted for compatibility with the surface beneath the multipurpose surfacing system is to be installed.

### 3.2 RELATED WORK OVER ASPHALT OR CONCRETE

- A. When surfacing on new asphalt pavement, the asphalt must meet the specifications and standards set forth by the Engineer. The contractor shall be responsible for performing an elevation survey of the asphalt prior to application of the rubber surface.
- B. The asphalt or pavement shall be sufficiently cured 20-28 days and cleaned prior to Work of this section to be performed. The governing guidelines of the rubber surfacing construction allow for a maximum longitudinal slope of one tenth of one percent (0.10%). The maximum lateral slope shall not exceed one (1) percent (1.00%). Grade performance tests may be required to be performed by the Contractor on both the leveling course and the top course of the asphalt pavement at the Engineer's discretion. The entire surface shall provide positive drainage to the inside edge of the rubber surface. The maximum allowable planarity deviation within an asphalt pass should be 1/8 inch in 10 feet when measured in any direction with a straight edge. Deficient areas in the leveling course should be corrected as approved by the Engineer. After any corrections, the surface shall not allow water to stand greater than 1/16 inch deep one (1) hour after rain has ended. If new concrete or an existing coating has been applied, the concrete should be medium grit finish and be acid etched once completely cured and completely cleaned off of any

## SECTION 32 12 18 – MULTI-PURPOSE SURFACE

residue, prior to placement of the rubber surface. Surface must be totally dry for rubber placement.

- C. The Owner shall be responsible to have adjacent grass edged and removed from all areas receiving the synthetic surface. It may be necessary to apply a liquid herbicide such as Roundup to any adjacent edges of sidewalk or synthetic surface areas.

### 3.3 EXECUTION

- A. **INSPECTION:** If an asphalt or concrete base is used the surface shall be allowed to cure for a minimum of 21 days prior to work of this section being performed. Prior to installation of the polyurethane base mat, the entire asphalt base shall be checked for planarity and surface tolerance. Any areas that vary more than 1/8 inch in any direction when measured with a 10-foot straight edge shall be patched with a compound compatible with the base material and approved by the synthetic surface manufacturer and the Engineer. All work required to put the asphalt base in acceptable condition shall be the responsibility of the General Contractor.
- B. General Contractor should perform tests for moisture and adhesion prior to application and report adverse conditions to the installation contractor in writing.
- C. **LIMITATIONS:** Installation of the synthetic surface material shall take place only when conditions are dry and the temperature is 55 degrees F and rising. If, in the installer's opinion, weather or climate conditions are harmful for proper synthetic surface installation, work will be delayed until conditions are agreeable.
- D. **INSTALLATION OVER ASPHALT, CONCRETE OR ROOFING MEMBRANE:** The entire area to be surfaced shall receive an application of polyurethane primer applied uniformly at a rate between 0.20-0.30 lbs. per sq. yd.

## PART 4 INSTALLATION

### 4.1 MULTI PURPOSE SURFACE

- A. The EPDM granules shall be integrated into a poured-in-place polyurethane binder to achieve the full depth thickness of the specified wear surface layer. The resilient finish shall be a matrix of exposed EPDM granules mixing ratio of rubber to binder shall not be less than 5 parts rubber to 1 part binder as determined by the weight of the products. The materials shall be prepared in a mechanical mixer until a homogenous mix is obtained.
- B. The mixed materials making up the synthetic surface shall be applied by a mechanically operated finishing machine which shall have an electrically heated screed or poured in place and hand towed. The surface shall be in situ installed in one single layer to the specified depth.
- C. The cured edge of each joint shall be primed with the synthetic surface binding agent prior to the adjacent base mat. All joint work shall be towed flush with the adjacent mat.

## SECTION 32 12 18 – MULTI-PURPOSE SURFACE

- D. All seams shall be troweled smooth within the pot life of the material. All edges shall be straight and rounded by turning the trowel. All cold dry seams shall be cut straight at an inward 45 degree angle and primed prior to commencing with subsequent work.

### 4.2 PROTECTION

- A. Cure Time: No traffic or other trades shall be allowed on the surface for a period of 48 hours following completion for ample cure time.
- B. Other Trades: It shall be the responsibility of the general contractor to protect the surface from damage by other trades before acceptance by the Owner or his agent.

### 4.3 MATERIAL GUARANTEE

- A. The surface materials shall be guaranteed against defects for a period of ten (10) years, per the warranty, from the date of completion. This ten year guarantee shall be provided directly to the owner by approved manufacturer.
- B. The installed structure guarantee excludes the following as applicable:
  - 1. Where materials or the installation is damaged by others or use of improper equipment.
  - 2. The surface has not been properly maintained according to manufactures maintenance instructions and recommendations.
  - 3. Damage from improper vehicle traffic, other than those specified by manufacturer, use of improper tires, and oil or fuel leaks.
  - 4. Failure of the asphalt base, concrete, or aggregate sub base.
  - 5. Defects caused by vandalism, Force Majeure, or natural disasters.
  - 6. Unless other terms and conditions are previously agreed upon by both parties and stipulated in the contract.

### 4.4 JOINT LABOR GUARANTEE

The surface installation shall be guaranteed against defects in workmanship for a period of one (1) year from the date of completion. Approved installers will repair or replace any proven defective workmanship or material during the guarantee period at no cost to the owner. This guarantee is in lieu of all other warranties, expressed or implied, including but not limited to any warranty of merchantability or fitness for a particular purpose and shall not include any other damages, either direct or consequential.

Please contact approved national installer USSA, Inc. for installation quotations or approved certified installer.

Phone: 877-288-0045

Email: [info@rubberway.com](mailto:info@rubberway.com)

Web: [www.rubberway.com](http://www.rubberway.com)

Email: [info@sustainablesurfacing.com](mailto:info@sustainablesurfacing.com)

Web: [www.sustainablesurfacing.com](http://www.sustainablesurfacing.com)

END OF SECTION