TRAFFIC CALMING USA
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TRAFFICGRIP HIGH FRICTION COLORED SURFACING
Manual/hand Application Method

Description. This work consists of installing a textured, high friction surface treatment in areas designated and detailed on the plans.

Materials. The materials used for the high friction surface treatment shall consist of a two-part binder and aggregate meeting the following requirements.

Binder. The binder shall be a two-part cold applied modified exothermic epoxy resin treatment. The binder shall consist of a thermosetting compound which holds the aggregate firmly in position. The binder shall also meet the following requirements:

Property	Value	Test Method
Tensile Strength @ 7 days, psi, minimum	2000	ASTM D 638
Elongation at break point, %, minimum	30	ASTM D 638
Hardness, Shore D, minimum	70	ASTM D 2240
Compressive Strength, psi, minimum		
@ 3-hour	1000	
@ 24-hour	5000	
Gel Time, minutes, minimum	10	ASTM D 2471
Cure Rate, hours, maximum	3	Thin film @ 75ºF
Water Absorption @ 24 hours, %, maximum	0.25	ASTM D 570
Adhesion Strength @ 24 hours, psi, minimum	250	ASTM D4541

Aggregate. The aggregate shall be crushed Bauxite, Granite, or gravel. The aggregate will be delivered to the construction site in clearly labeled bags or sacks. The aggregate shall be clean, dry and free from foreign matter. The aggregate shall meet the following requirements:

Property	Value	Test Method
Aggregate Abrasion Value, maximum	20	LA Abrasion Test
Hardness, Mohls scale, minimum	6.5	
Aggregate Grading,		
No 6 Sieve Size, minimum passing, %	95	
No 16 Sieve Size, maximum passing, %	5	

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Construction Methods.

The two-part modified epoxy binder material shall not be applied on a wet surface, when the ambient and/or surface temperature is below 40°F or above 105°F, or when the anticipated weather conditions would prevent the proper application of the surface treatment as determined by the manufacturer.

Existing surfaces shall be cleaned by use of mechanical sweepers, high pressure air or other methods approved by the Engineer prior to the installation. Receiving surfaces must be clean, dry and free of all dust, oil, debris and any other material that might interfere with the bond between the epoxy binder material and existing surfaces. Surfaces may need to be washed with a mild detergent, rinsed and dried using hot compressed air. Any existing pavement markings, as deemed necessary by the Engineer and/or manufacturer's representative, shall be removed or covered beforehand. Adequate cleaning of all surfaces will be determined by the Engineer and/or manufacturer's representative.

All existing pavement markings to remain, utilities, drainage structures, curb and any other structure within/adjacent to the treatment location shall be protected against the application of the surface treatment materials.

Joints and cracks greater than ¼-inch shall be cleaned and filled with an approved crack sealant and to be undertaken by others

Application of the Binder.

The epoxy (Part A) and the Amine Hardener (Part B) are proportioned one to one ratio for asphalt application or ration of two to one for concrete application. The Epoxy and Amine are each emptied from their respective containers of 250 gallon totes and mixed in a chosen mixing vessel up to 25 gallons capacity. The two-part modified epoxy binder components shall be proportioned to the correct ratio, and mixed using a low-speed, high-torque drill fitted with a helical stirrer at a rate recommended by the manufacturer.

Mixing of the components will be a minimum of 2 minutes and not greater than 3 minutes duration. Once mixed the epoxy binder shall be emptied onto the asphalt or concrete and uniformly spread by means of a hand-applied, serrated-edged squeegee.

The in-place thickness of the mixed epoxy shall be approximately 60-80 mils above the pavement surface. For irregular surfaces, the application rate may be adjusted, as determined by the manufacturer's representative.

Application of the Aggregate.

The dry aggregate shall be immediately applied onto the epoxy binder prior to the epoxy binder reaching its gel time coverage. Application of the stone aggregate is achieved by shovels or by carts. Do not use a vibratory or impact type compaction on the aggregate after placement. Lightweight rollers shall be used to seat the aggregate topping. Complete coverage of the "wet" epoxy binder with aggregate is necessary to achieve a uniform surface. No exposed wet spots shall be visible once the aggregate is placed. The application rate shall be such that the retained aggregate will be at least 12 pounds per square yard.

Curing

The treatment shall be allowed to cure in accordance with manufacturer recommendations, approximately three hours at an ambient temperature of 75°F and rising. Excess aggregate shall be removed by hand brooms, mechanical sweeping, or suction sweeping before opening to traffic. The treated surfaces shall be protected from traffic and environmental effects until the area has cured.

Excess aggregate can be reused on the next day's installation. The excess aggregate must be clean, uncontaminated and dry. An additional sweeping shall be performed after the system fully cures. The coverage rate of the retained aggregate shall be at least 12 pounds per square yard. Any unused material shall be disposed of by the Contractor.

Friction Testing.

The materials used in the high friction surface treatments shall produce a friction number of at least 60.

Method of Measurement. High friction surface treatment will be measured by the square yard, complete in place and accepted.

Basis of Payment. High friction surface treatment, measured as prescribed above, will be paid for at the contract unit price bid per square yard, which price shall be full compensation for furnishing all equipment, tools, labor, materials, and for all pertinent operations necessary to complete the work

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