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**READ BEFORE USING THIS PRODUCT**

**GENERAL** Crafco HFS is an epoxy polymer overlay that provides a multi-purpose high friction surface for asphalt concrete or portland cement concrete pavements, and other surfaces. HFS is a field installed system that consists of a specially formulated 2- component epoxy binder that is field mixed, applied to the surface at the correct rate, and covered with specially selected aggregate to provide desired surface characteristics of friction and color. HFS forms a highly durable and wear resistant high friction colored surface that is flexible, impact resistant, and resistant to traffic, fuel, oil, and pavement de-icers. The increased surface friction provided by HFS improves traffic safety by reducing skidding and braking distances, reducing hydroplaning, and increasing driver awareness. The colored surface of HFS can be used in traffic calming applications. Typical HFS pavement installations include intersections, entrance/exit ramps, crosswalks, school crossings, bridge surfaces, grades, curves, roundabouts, toll plazas, bike paths or anywhere else that increased friction and delineating color are desired.

**COMPONENTS** Crafco HFS is composed of HFS Binder supplied in both **0.8 or 4.8 gal** kits, and the selected surfacing aggregate which is supplied in 50 lb bags or boxes.

**BINDER** — HFS binder is a 100% solids, 2-component, self-leveling, primerless, low odor, epoxy that provides a sufficient work life, rapid track free time and high adhesion to aggregates and pavements. The 0.8 gal kit is Part No. 33350, and the 4.8 gal kit is Part No. 33351. Each kit includes both pre-proportioned resin (part A) and hardener (part B) in individual pails which when mixed provides either 0.8 or 4.8 gal. of binder. To use, the part B is added to the part A pail, and then mixed immediately prior to use. Following are properties and specifications for HFS Binder:

**HFS BINDER PROPERTIES AT 77°F (25°C)**

Components	(A) Resin (B) Hardener
Mixed Density lbs/gal (kg/l)	9.2 (1.12)
Mixed Ratio (pbv)	2:1
Color	Clear
Mixed Viscosity (cP)	4500 typical
Work Time, minutes	10 typical
Application Temperature °F (°C)	60 – 95 (16 – 35)
Coverage*, ft <sup>2</sup> /gal (m <sup>2</sup> /L) @30mil	53 (1.31)

\*Varies with surface porosity and texture

**HFS Binder Specification**

<u>Property</u>	<u>Test Method</u>	<u>Specification</u>
Gel Time, 50ml volume, minutes	ASTM C2471	15 - 45
Compressive Strength @3hrs, psi (MPa)	ASTM D695	1000 (6.9) min.
Compressive Strength @24hrs, psi (MPa)		5000 (34.5) min.
Tensile Strength, psi (Mpa)	ASTM D638	2000 – 5000 (13.8 – 34.5)
Elongation at Break, %	ASTM D638	30 – 70
Hardness, Shore D	ASTM D2240	70 min.
Adhesion Strength, psi (MPa)	ASTM D4541	250 (1.72) min.
Permeability to Chloride Ion @28 days, C	AASHTO T277	< 100
Water Absorption @24hrs., %	ASTM D570	< 1
Thermal Compatibility	ASTM C884	Pass

**SURFACING AGGREGATE** — Several surfacing aggregates are available for HFS to provide a variety of colors and frictional characteristics. Aggregates are specifically chosen to have appropriate color, durability, and frictional characteristics when used in HFS. Bauxite Aggregate (Part No. 34950) is supplied in a natural color and is used where the highest surface friction and long term wear resistance is required. Granite aggregate is supplied in natural Red (Part No. 33371) and natural Silver (Part No. 33374) and is used where color, high friction and good wear resistance is desired. Colored coated aggregates, various other natural aggregates and some custom colors are available. See Crafco surfacing aggregate literature for the availability and the product data sheets for specifications. All aggregates are supplied in 50 lb bags or boxes.

**INSTALLATION** Installation of Crafcoc HFS is summarized as follows: The HFS binder is mixed, and then uniformly applied at the correct rate to the prepared pavement surface. Immediately following binder application, the surfacing aggregate is applied to cover the binder. The HFS Binder is then allowed to cure. Following curing, excess aggregate is removed from the surface. The pavement can then be opened to traffic. For more details on project selection, preparation, installation procedures and clean up, please refer to the Crafcoc Installation Instructions for HFS (January 2008).

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