

GUIDE SPECIFICATION

FLEXOLITH, FLEXOLITH SUMMER GRADE and FLEXOLITH FS Low Modulus Epoxy Binder for Polymer Overlay of Bridge Decks

Two-component, 100% solids, low modulus, moisture insensitive epoxy binder with properties that make it suitable for use in applications where stress relief and resistance to mechanical and thermal movements are required.

Base Coat with Aggregate Broadcast: *This is the FLEXOLITH/FLEXOLITH SUMMER GRADE/FLEXOLITH FS resinous coating applied at full coverage. While material is still wet clean dry aggregate is broadcast into the resin to excess. Once the resin has fully cured the excess aggregate is removed. This step is repeated until the desired thickness is achieved. Most bridge deck applications typically consist of a double broadcast system 1/4" (6.35 mm) to 3/8" (9.5 mm) thick.*

{Note to Specifier: The paragraphs below are meant to be incorporated into Parts 1, 2 and 3 of a standard CSI 3 Part Format specification, project's General Structural Notes or directly onto the plans. They must be carefully reviewed by a qualified design professional and edited to meet the particular requirements of the project at hand, assure compliance with any governing building codes, and coordinate with other specification sections and drawings. In no case shall these Guide Specifications be considered to be Contract Documents or serve as installation instructions for the product being discussed. In any cases of discrepancy the manufacturer's most recently published data sheet shall take precedent.}

PART 1 GENERAL

{Note to Specifier: Insert the following paragraph and sub paragraphs as required for your project. Euclid's recommended products are shown in italics. More info can be found on these products at www.euclidchemical.com}

1.01 Related Work:

- A. *Joint Fillers – [Eucolastic](#), [Tammsflex](#), [Dural 340](#), [Qwikjoint UVR](#)*
- B. *Concrete Repair:*
 - 1. *Vertical and Overhead: [Euco V-100](#), [Tamms Structural Mortar](#)*
 - 2. *Horizontal: [Express Repair](#), [VersaSpeed](#)*
 - 3. *Form and Pour: [Eucocrete](#)*
- C. *Crack Repair/Injection: [Dural 452 LV](#), [Dural Fast Set Epoxy Gel](#)*
- D. *Bonding Agents: [Euroweld 2.0](#), [Duralprep A.C.](#), [Dural 452 MV](#), [EucoFloor Epoxy Primer](#)*
- E. *Waterproofing/Dampproofing : [Tamoseal](#), [Vandex Super](#), [Hey'Di K-11](#), [Vandex BB75](#)*
- F. *Architectural Coatings: [Tammscoat](#), [Tammolastic](#)*
- G. *Anti-Graffiti Coatings: [AG 100](#), [AG-400](#),*
- H. *Traffic Deck Coatings: [Tammsdeck](#), [Flexdeck](#)*
- I. *Decorative Floor Coatings: [Duraltex](#)*
- J. *Epoxy Chemical Resistant Coatings: [Duralkote 240](#), [Duralkote 500](#), [Duraltex 1705/07](#), [Duraltex 1805/07](#)*
- K. *Penetrating Water Repellents:*
 - 1. *Horizontal and Vertical: [Baracade Silane 40 WB](#), [Baracade WB 244](#), [Baracade 100C](#), [Baracade Silane 40 IPA](#),*
 - 2. *Vertical: [Chemstop WB Regular/Heavy Duty](#)*
- L. *Penetrating Epoxy Sealer: [Euco #512 VOX Epoxy Sealer](#)*

M. *Cathodic Protection:* [Sentinel Galvanic Anodes](#)

1.02 REFERENCE DOCUMENTS

- A. Refer to specific product Data Sheets
- B. Refer to applicable Material Safety Data Sheets
- C. ASTM C566-97, "Standard Test Method for Total Evaporate Moisture Content of Aggregate by Drying".
- D. ASTM C579 - 01(2006) Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
- E. ASTM C597-01, "Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes".
- F. ASTM C881, "Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete".
- G. ASTM C882, "Standard Test Method for Thermal Compatibility between Concrete and an Epoxy Resin Overlay".
- H. ASTM C884-16 "Standard Test Method for Thermal Compatibility Between Concrete and an Epoxy-Resin Overlay"
- I. ASTM C1583-04, "Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)".
- J. ASTM D570, Standard Test Method for Water Absorption of Plastics".
- K. ASTM D638-03, "Standard Test Method for Tensile Properties of Plastics".
- L. ASTM D790 "Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials"
- M. ASTM D2393, "Standard Test Method for Viscosity of Epoxy Resins and Related Components".
- N. ASTM D2240, "Standard Test Method for Rubber Property – Durometer Hardness".
- O. ASTM D3278-96, "Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus".
- P. ASTM D 4259-88, "Standard Practice for Abrading Concrete".
- Q. ASTM D4263-88, "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method".
- R. International Concrete Repair Institute, No. 310.2–1997, "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays".

1.03 SUBMITTALS

- A. Submit a certificate of compliance and quality control test reports verifying conformance to material specifications for each manufactured batch of epoxy and lot of aggregate. A lot or batch is a quantity of material manufactured at one time and placed into containers.
- B. Submit material and product data sufficient for the Architect/Engineer to evaluate the system, including all installation instructions and quality control procedures required to assure an acceptable finished overlay.
- C. Submit certified test results from a nationally recognized independent testing laboratory verifying properties of the cured system meet the requirements of this specification.
- D. Submit proof that the epoxy polymer overlay system has been used successfully on projects of similar size and scope, in comparable weathering environments and verify satisfactory performance of at least five (5) years.

1.04 QUALITY ASSURANCE

- A. Obtain all Polymer Overlay materials, including primers, base coats, seal coats and top coats etc... from one single Polymer Overlay manufacturer. Obtain secondary materials

including aggregates, sheet flashings, joint sealants, and substrate repair materials of type and from source recommended by Polymer Overlay manufacturer.

1. Polymer Overlay manufacturer shall have ISO 9001 Quality Certification.

{Note to Specifier: Retain paragraph below if a mock-up will be required. Euclid Chemical highly recommends mock-ups for evaluation and acceptance of product finishes.}

B. Polymer Overlay Mock-Up:

1. Prior to commencing Polymer Overlay application, prepare a minimum <<insert size>> full scale, reference mock-up of each type, [and][color][and][texture] of Polymer Overlay surface for approval by Owner. Said reference mock-up shall be constructed in location designated by owner/architect, using the same equipment, tools, personnel and methods for installing all materials as will be used for the remaining work to be performed.
2. Once accepted by owner or owner's representative, mock-up is to remain, and is to be protected from damage. It shall become the standard for acceptance of color and texture for Polymer Overlay applications.
3. When Architect determines that mockup does not meet requirements, demolish and remove it from the site and cast another until the mockup is accepted.

1.05 DELIVERY, LABELING, STORAGE, AND HANDLING OF MATERIALS

A. Labeling – Mark product containers with the following information:

1. Name of manufacturer;
2. Manufacturer's product identification;
3. Material quantity;
4. Manufacturer's batch number;
5. Manufacturer's mixing instructions;
6. Warning for storage and handling; and
7. Hazard information.

B. Delivery and Storage: Deliver the epoxy resins and selected aggregate in original, unopened containers. Store epoxy resins and hardeners in an area that prevents them from getting wet. Store them away from open flames and other sources of ignition. Store epoxy resins and hardeners out of direct sunlight and at temperatures between 40 and 90° F (4-32°C) unless otherwise recommended by the material manufacturer. Store aggregates in an area that prevents them from getting wet. Outdoor storage of all materials is permitted with manufacturers written approval.

C. Handling: Protective gloves, clothing, and safety glasses shall be provided to workers and inspectors directly exposed to the materials. Product safety data sheets shall be provided to all workers and inspectors as obtained from the manufacturer. Heed all warnings of the Material Safety Data Sheets and manufacturer's labels.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Apply Polymer Overlay within the range of ambient and substrate temperatures recommended in writing by manufacturer. Do not apply Polymer Overlay to wet substrates. Apply when temperatures are between 40 deg F and 90 deg F (10 deg C and 32 deg C). Do not apply when temperatures are less than 5 deg F (-15 deg C) above dew point.

1. Use a surface thermometer to monitor the temperature of substrates to be patched and overlaid.

2. Do not apply material if the substrate is frozen or if freezing conditions are imminent.
3. Coordinate coating work with other trades to ensure adequate illumination, ventilation, and dust free environment during application and curing of flooring.

B. Conditions for Concrete

{Note to Specifier: Moisture retaining cover cure on new concrete is to be removed after seven days to allow the concrete to air dry prior to installation.}

1. New concrete shall be in place a minimum 28 days before proceeding.
2. Any cementitious repair mortars must have a full 7-day cure prior to coating unless otherwise approved in writing by architect.
3. Do not apply Polymer Overlay to concrete slabs on grade.
4. Examination:
 - a. Prior to commencement of Polymer Overlay application examine substrates, with Applicator present, for compliance with requirements and for other conditions affecting performance of Polymer Overlay.
 - b. For the record, prepare written report, endorsed by Applicator, listing conditions detrimental to performance.
 - c. Verify compatibility with and suitability of substrates.
 - d. Contractor must report, in writing, surfaces left in improper condition by other trades. Commencement of coat application indicates acceptance of surfaces and conditions.
5. After surface preparation and just prior to the application of the system, verify that the substrate is visibly dry and free of moisture.
 - a. Test for moisture vapor transmission by plastic sheet method according to ASTM D 4263, modified to two hours. If after 2 hours, no moisture droplets are visible, then the application may proceed.

PART 2 – PRODUCTS

{Note to Specifier: Insert paragraphs below if concrete repairs exceeding ¼" in depth will be required.}

2.01 CEMENTITIOUS REPAIR MORTAR

- A. All concrete repair materials shall be made with materials that are approved in writing by the Polymer Overlay manufacturer and the Engineer/Architect.
- B. **Trowelable Horizontal Repair Mortar for Application Thicknesses of ¼" (6 mm) to 4" (10 cm) neat up to 6" (15 cm) extended:** Cement-based, one component, microfiber reinforced, rapid setting, shrinkage compensated repair mortar, containing integral corrosion inhibitor, suitable for interior or exterior use, and designed to receive light duty tire traffic within 4 hours and epoxy coatings within 5 hours of initial set. Material shall have the following properties neat:
 1. Compressive Strength minimum 2,800 psi (19.3 MPa) at 5 hours, 4,000 psi (27.6 MPa) at 1 day per and minimum 8,000 psi (55.2 MPa) at 28 days per ASTM C109
 2. Flexural Strength minimum 1,000 psi (7 MPa) at 28 days per ASTM C348
 3. Crack Resistance per ASTM C1581 "Ring Test":
 - a. Net Time Until Cracking: >90 days
 - b. Stress Rate: 7.1 psi per day
 4. Linear Shrinkage per ASTM C157 at 28 days:

- a. -0.030% Air Cure
- b. +0.013% Water Cure-
5. Freeze Thaw Resistance of 300 Cycles...95% dynamic modulus per ASTM C 666
6. Basis of Design Product:
 - a) **Euclid Chemical Company (The); [VersaSpeed 100](#) or [VersaSpeed LS100](#) www.euclidchemical.com**

2.02 POLYMER OVERLAY SYSTEM

- A. Low Modulus Epoxy Binder: The epoxy resins used in the epoxy overlay system shall meet the following requirements.
 1. Properties of mixed, uncured epoxy binder
 - a. Viscosity at 73 Deg F: 700 to 2,500 cps per ASTM C2556
 - b. Gel Time at 73 Deg F: 14 to 45 minutes per ASTM C881, Class B
 - c. VOC's: (0)
 2. Properties of Cured Epoxy Binder.
 - a. Tensile Strength: >2,000 psi (13.8 MPa) per ASTM D638
 - b. Tensile Elongation: 30 to 70 percent per ASTM D638
 - c. Water Absorption: <0.50 percent per ASTM D570, 24 hr.
 - d. Shore D Hardness: 70 +/- 5 per ASTM D2240
 - e. Chloride Permeability: <100 Coulombs per ASTM C1202, AASHTO T 77
 - f. Compressive Strength: minimum 2,000 psi (13.8 MPa) at 3 hours, minimum 6,000 psi (41.4 MPa) at 7 days per ASTM C579
 - g. Flexural Strength: 4,500 psi (34.5 MPa) per ASTM D790
 - h. Thermal Compatibility: Passes per ASTM C884
 - i. Bond Strength: >2,400 psi (16.5 MPa) at 7 days per ASTM C1583

{Note to Specifier: The Flexolith system is available in three different formulations; "FLEXOLITH", "FLEXOLITH SUMMER GRADE", and "FLEXOLITH FS". The FLEXOLITH SUMMER GRADE is a slower setting formulation designed for use in warmer temperatures. The FLEXOLITH FS is a faster setting formulation for application at lower temperatures. More information can be found on the corresponding product data sheets or contact your local Euclid representative for recommendations.}

5. Basis of Design Product:
 - a. **Euclid Chemical Company (The); "[FLEXOLITH](#)", "[FLEXOLITH SUMMER GRADE](#)" or "[FLEXOLITH FS](#)", manufactured by The Euclid Chemical Company, 19218 Redwood Road, Cleveland, OH 44110, phone 800-321-7628**
- B. Aggregate: The aggregate used for the epoxy polymer overlay shall be #8 Flint Rock by Flintrock Products – Commerce OK (flintrockproducts.com), Best Sand 612, Basalt #8 or an approved similarly graded non-slip aggregate.
 1. The aggregate used in all layers of the epoxy polymer overlay shall be clean and free from moisture.
 2. The aggregate shall be angular and shall consist of natural silica sand, basalt, or other non-friable aggregate. It shall be durable and sound and have a proven record of performance in applications of this type.
 3. The aggregate shall be 100 percent fractured, thoroughly washed and kiln dried to a maximum moisture content of 0.2 percent by weight, measured in accordance with ASTM C566

4. The aggregate shall be packaged such that they arrive at the job-site and are maintained in a moisture-free condition for application in the overlay system.

SECTION 3 – EXECUTION

3.01 REPAIR OF DAMAGED AND DETERIORATED CONCRETE SURFACES

- A. Prior to application of Polymer Overlay repair concrete surface <<as necessary>><<as indicated on drawings>><<as directed by the Engineer>>.
- B. Rapid setting repair mortars that are formulated with magnesium phosphate cement shall not be acceptable repair mortars to receive Polymer Overlay system.
- C. Full Depth Repairs: Perform full depth repairs in accordance with the requirements of local DOT requirements.
- D. Partial Depth Repairs: Partial depth repairs shall be made in accordance with manufacturer's written recommendations and the following requirements.
 1. Areas to be repaired shall be saw-cut at the perimeter to provide straight, defined lines in which to make repair.
 2. Spalled and deteriorated areas of concrete deck shall be chipped back to sound concrete as directed by the Engineer.
 3. Repair area shall be abrasive-blasted and all loose particles of blasting medium shall be removed prior to placing repair. Provide minimum concrete surface profile (CSP) as called for by manufacturer's published data sheet per ICRI 310.2.

{Note to specifier: The strength of the prepared concrete surface can be tested. Insert the following sub paragraph if quantitative results are required.}

4. **[Following surface preparation the cleaned concrete shall be tested for compliance with the following:]**
 - a. **[Minimum surface tensile strength of 250 psi (1.7 MPa) when tested with a "Elcometer" or similar pull tester per ASTM C1583.]**
5. Damaged areas with nominal depth of less than ¼ inch (6.35 mm):
 - a. Damaged surface area to be repaired shall be completely dry prior to priming and placement of epoxy repair.
 - b. Prepared surface shall be primed with properly mixed "neat" Low Modulus Epoxy Binder at applied at an approximate coverage rate of 100 ft²/gal (0.4 Liters/Sq. Meter)
 - c. Prior to prime coat becoming tack free, mix and apply epoxy repair mortar composed of 3 parts by volume of clean, dried, bagged silica sand (20/40 mesh) and 1 part by volume of the Low Modulus Epoxy Binder. Mix and apply in accordance with manufacturers recommendations.
 - d. Epoxy repair mortar shall be consolidated and struck off flush with the surrounding concrete deck.
 - e. While the surface of the epoxy mortar is still wet, broadcast clean, dried, bagged silica sand onto the repaired area at a rate of 4 to 5 lbs/yd² (1.52 – 1.90 Kg/Sq. Meter). After epoxy mortar has cured to a point that will allow foot traffic, sweep, vacuum or blow off (using oil and water free compressed air) the excess aggregate completely from the surface.
5. Damaged areas with nominal depth exceeding ¼ inch (6.35 mm):

- a. Prepare surface, mix product, and install specified Trowelable Horizontal Repair Mortar per manufacturer's published instructions.

3.02 SURFACE PREPARATION

- A. Do not place Polymer Overlay on concrete less than 28 days old unless specified otherwise.
- B. Expansion joints and scuppers shall be protected from contaminants by masking or other methods as approved by the engineer.

{Note to Specifier: Insert paragraph below concrete edges and joints are reinforced with steel angles. Details (Figure F-1) are attached to this document for inclusion on drawings.}

- [C. Concrete Removal at Steel Angle Reinforced Edges and Joints: Shotblast equipment shall be used to create a transitional area of tapered depth for 3 feet (1 meter) on either side of each steel angle at transverse bridge joints. This must result in the removal of ¼ to 5/16 inch (6 – 8 mm) of concrete immediately adjacent to the joint steel, and tapering to 1/16 to 1/8 inch (1.5 – 3 mm) at a distance of 3 feet (1 meter) from the joint. See drawings.]**

{Note to Specifier: Insert paragraph and sub paragraphs below to provide language regarding detailing of epoxy polymer overlay at scuppers. Details (Figure 2) are attached to this document for inclusion on drawings}

- [D. Concrete Removal at Scuppers: Remove concrete at scuppers as indicated on drawings.]**

- E. All areas receiving Polymer Overlay shall be cleaned by shotblasting to remove any oil, dirt, rubber, and any other potentially detrimental material such as curing compounds and laitance which, in manufacturer and engineer's opinion, would prevent proper bonding and curing of epoxy polymer overlay.
- F. Shotblasting shall not be performed until all epoxy and/or cementitious repairs have adequately cured.
- G. Only those surfaces that can be covered with the Polymer Overlay during the same work day shall be shotblast cleaned in advance.
- H. In areas that shotblasting equipment cannot reach (i.e., along curbs and median walls) or cannot remove (line markings, asphalt, etc.), sandblasting and walk behind grinders shall be used to provide specified concrete surface profile (CSP). This should be performed prior to shotblasting whenever applicable and practical.
- I. Surface preparation of concrete surfaces to receive Polymer Overlay shall expose coarse aggregate and provide a profile as specified in International Concrete Repair Institute, No. 310.2–1997, CSP 4-5.
- J. Steel surfaces such as expansion joints, sidewalks, steel grids, and steel decks that are to receive the Polymer Overlay shall be shotblasted or sand blasted according to SSPC-SP 10/NACE No. 2 resulting in minimum surface profiles of 0.004 in. (0.10 mm) amplitude.
 1. If flash rust appears, re-blast the surface to the aforementioned specification.

- K. Upon completion of shotblast cleaning, any loose shot must be removed using magnetic rollers. Other particles and dust that are not picked up by the vacuum component of the shotblast machine shall be removed from the deck prior to the application of the Polymer Overlay. Where compressed air is used compressors shall be equipped with functioning oil/water separators.

{Note to Specifier: Pull bond testing is highly recommended. The number of tests to be performed is typically determined by the Engineer, however normally one test location is evaluated for every 4,000 square feet (43.5 sq. meters). The average minimum acceptable bond strength is 250 psi on normal weight concrete}

- L. Acceptability of the surface preparation will be determined by the Engineer, and shall include the use of a pull bond test in accordance to ASTM C1583.
1. Provide (1) test per each <<4,000>> square feet at locations indicated by Engineer.
 2. The average minimum acceptable bond strength shall be 250 psi. (1.72 MPa)
 3. The Contractor shall repair all bond test locations with the Low Modulus Epoxy Binder mixed to mortar consistency in accordance with this specification and manufacturer's recommendations.
- M. Immediately prior to application of Polymer Overlay, Contractor shall request and receive approval to proceed from Engineer to assure that surface is acceptable for application of epoxy polymer overlay.
- N. No traffic, other than overlay application equipment, shall be allowed on accepted prepared surface until all layers of Polymer Overlay system have been applied and properly cured.
1. Should the prepared surface be opened to traffic and/or contaminated in any way additional cleaning will be required.
 2. Polymer Overlay system application equipment shall be allowed to drive on the deck surface during application of the overlay provided precautions have been taken to insure that the deck surface will not become contaminated.

3.03 LOW MODULUS EPOXY COATING SYSTEM APPLICATION

- A. Manufacturer of the Polymer Overlay system material shall have a representative on the jobsite during the initial phases of the work. Said representative, upon consultation with the engineer, will review all aspects of the overlay application.
- B. All Polymer Overlay system materials shall be mixed and applied within temperature restrictions published on manufacturer's literature
- C. Prepared deck surface must be dry prior to the application of the Polymer Overlay materials. Test for presence of moisture in accordance with ASTM D4263 (modified to a minimum of 2 hours). There shall be no visible moisture droplets present at end of test.
- D. Where compressed air is used to help dry out the bridge deck surface, compressors shall be equipped with functioning oil/water separators.
- E. Cease all Polymer Overlay system operations when rain is imminent. Protect freshly applied overlay from sudden or unexpected rain by covering with plastic sheeting. Remove the plastic cover soon after the coating surface is tack-free. The Engineer may order the removal and replacement of any material damaged by rainfall. If removal is required, square off the damaged area by saw cutting to the top of the concrete deck surface and remove coating using appropriate methods as approved by the Engineer.

- F. Mixing: Polymer Overlay and primers shall be mixed thoroughly utilizing a mechanical drill with a manufacturer approved mixing blade. Premix individual components separately per manufacturer's recommendations then combine materials and mix per manufacturers recommendations. Bottom and sides of container may be scraped during mixing but shall not be scraped once mixing has ceased. Do not aerate material.
1. Where automated continuous mixing and application equipment is used the device shall meet the following requirements:
 - a. Device shall feature volumetric metering pumps that continuously mix, meter, monitor and dispense the resin binder.
 - b. Be equipped with heated reservoirs if recommended by the manufacturer.
 - c. Blend and mix the binder resin at the manufacturer's specified ratio (+/- 2% max by volume) and continuously apply once blended.
- H. Contractor shall provide suitable coverings, such as heavy-duty drop cloths and the like, to protect all exposed areas where application of the Polymer Overlay system is not intended. These areas may include and are not limited to; curbs, sidewalks, railings, parapets, joints, etc.
- I. After mixing of the components, the liquid shall be evenly distributed on the clean, dry deck surface utilizing squeegee, spray or roller, or any combinations thereof as approved by the Engineer. Application method used shall apply the material smoothly, uniformly, and continuously. Material shall not be allowed to puddle or accumulate into holes and depressions on concrete deck.
1. First Coat: Apply first coat of the Low Modulus Epoxy Binder to prepared concrete deck at manufacturer's recommended application rate of 40 ft²/gal (1 m²/L).
 - a. While the epoxy binder is still wet, broadcast specified aggregate at application rate of 1.25 to 1.5 lb/ft² (6 - 7.25 Kg/Sq. Meter) such that the aggregate covers the epoxy resin and no wet spots from the epoxy binder can be seen. If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.
 - b. Aggregate shall be sprinkled or dropped vertically in such a manner so as not to displace or ripple the wet resin film.
 - c. After the first coat of epoxy binder has cured to a point that will allow foot traffic, sweep, vacuum or blow off (using oil and water free compressed air) the excess aggregate completely from the surface.
 2. Second Coat: Apply second coat of the Low Modulus Epoxy Binder to prepared concrete deck at manufacturer's recommended application rate of 20 ft²/gal (0.54 m²/L).
 - a. While the epoxy binder is still wet, broadcast specified aggregate at application rate of 1.5 to 2.0 lb/ft² (7.25-9.70 Kg/Sq. Meter) such that the aggregate covers the epoxy resin and no wet spots from the epoxy binder can be seen. If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.
 - b. Aggregate shall be sprinkled or dropped vertically in such a manner so as not displace or ripple the wet resin film.
 - c. After second coat of epoxy binder has cured to a point that will allow foot traffic, sweep, vacuum or blow off (using oil and water free compressed air) the excess aggregate completely from the surface.

{Note to Specifier: Two coats of FLEXOLITH Epoxy Polymer Overlay will provide an overlay thickness of approximately 1/4". Insert sub paragraphs below to provide an overlay thickness of 3/8".

[3. Third Coat: Apply second coat of the Low Modulus Epoxy Binder to prepared concrete deck at manufacturer’s recommended application rate of 20 to 22 ft²/gal (2 Liters/Sq. Meter).

- a. While the epoxy binder is still wet, broadcast specified aggregate at application rate of 1.5 to 2.0 lb/ft² (7.25-9.70 Kg/Sq. Meter) such that the aggregate covers the epoxy resin and no wet spots from the epoxy binder can be seen. If wet spots develop, immediately broadcast additional aggregate until a dry surface is re-established.
- b. Aggregate shall be sprinkled or dropped vertically in such a manner so as not to displace or ripple the wet resin film.
- c. After third coat of epoxy binder has cured to a point that will allow foot traffic, sweep, vacuum or blow off (using oil and water free compressed air) the excess aggregate completely from the surface of the Epoxy Polymer Overlay.]

- J. Joints in the Polymer Overlay system, between two adjacent lanes shall be staggered and overlapped between successive coats so that no ridges appear.
- K. The completed Polymer Overlay system surface shall be free of any smooth or “glossy” areas such as those resulting from insufficient quantities of surface aggregate.
- L. No vehicle shall be allowed on the Polymer Overlay system during the cure period.
- M. Remove all excess aggregate from the surface after the system has cured.
- N. Do not open to traffic until finished system is hard enough to not be damaged by the traffic.
- O. Curing: Polymer Overlay shall be allowed to cure sufficiently before subjecting it to loads or traffic of any nature that may damage the system. Cure time depends upon ambient and concrete deck temperatures during and after application. The following cure schedule is provided as a guide; however, actual degree of cure and suitability for traffic shall be determined by the Manufacturer and accepted by the Engineer.

Epoxy Polymer Overlay			
	Flexolith SG	Flexolith	Flexolith FS
Temperature, °F (C)	Time, hrs.	Time, hrs.	Time, hrs.
40 (4.4)	---	10	4.5
55 (12.8)	12	8	3.5
60 (15.6)	10	6	3
75 (23.9)	7	4	2.5
85 (29.4)	5	3	2
95 (35.0)	4	2	1.5

END OF SECTION

DETAILS:

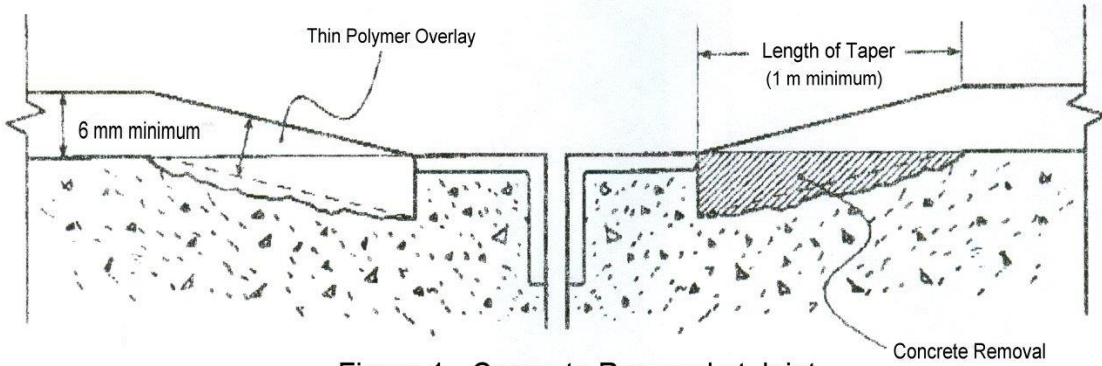


Figure 1 - Concrete Removal at Joint

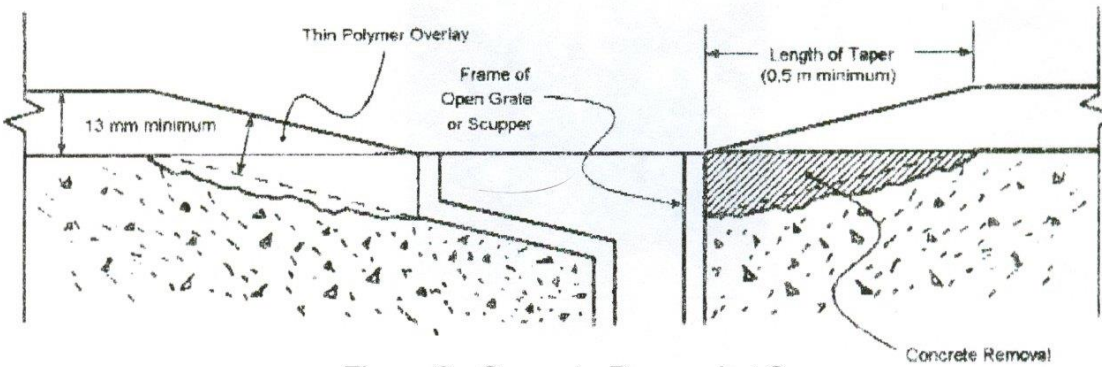


Figure 2 - Concrete Removal at Scupper