



TECHNICAL DATA SHEET

FLEXOLITH

Low Modulus Epoxy Binder for Polymer Concrete

TRAFFIC COATINGS
THERMAL MOISTURE PROTECTION
07180

TAMMS INDUSTRIES
MARCH 2002

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- DESCRIPTION:** FLEXOLITH is a two component, 100% solids, low modulus, moisture insensitive epoxy binder with properties which makes it suitable for use in applications where stress relief and resistance to mechanical and thermal movements are required. FLEXOLITH is formulated for low temperature applications, or where rapid cure is required.
- USES:** FLEXOLITH is designed for use as a binder for overlays or non-skid surfaces on concrete decks and floors in parking decks, bridges, factories, warehouses, loading docks and related applications. FLEXOLITH is also used in nosing repair applications.
- COMPOSITION AND MATERIALS:** FLEXOLITH is a two component, 100% solids, epoxy compound.

- COLORS:** Clear, Light Gray, Dark Gray, and Tile Red.
- SURFACE PREPARATION:** Concrete must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. Remove oil, grease smear and asphalt residue with trisodium phosphate or a strong detergent. For heavy oil contamination use steam cleaning in conjunction with a strong emulsifying detergent. Surface laitance must be removed. The preferred method of surface preparation is abrasive blasting. If it is not possible to abrasive blast, acid etch with 15% hydrochloric acid solution. Follow by pressure washing with copious amounts of water to neutralize the surface. The pH of the surface should be checked according to ASTM D4262 after washing. Rinse thoroughly with potable water. After cleaning, repair defective concrete, honeycombs, cavities, joint cracks, voids and other defects by routing to sound material and patching as needed. Smooth precast and formed concrete surfaces must be cleaned, roughened and made absorptive by abrasive blasting or shotblasting. Following surface preparation, the cleaned surface should pull concrete when tested with an Elcometer or similar pull tester (ASTM D4541). Before application of the coating, use the "Visqueen test" (ASTM D4263) to evaluate moisture level in concrete. **New Concrete:** Allow to cure for a minimum of 28 days. (Consult TAMMS Technical Service if earlier times are required). Prepare surface as recommended above. **Old Concrete:** For rapid curing patching, use a mortar of FLEXOLITH and clean aggregate. If portland cement patching materials are used, allow the patch to cure for 28 days before coating. (Consult TAMMS Technical Service for appropriate patching materials if earlier application is required.) After patching, a light brush blast is recommended prior to coating.

- MIXING INSTRUCTIONS:** Using a low speed drill motor and a "Jiffy" type mixer, mix the A & B FLEXOLITH components separately for approximately 1 minute.

Binder: Combine one part by volume of "A" with one part by volume of "B" and mix thoroughly. Scrape the bottom and sides of mixing container, at least once. Mix just enough material that can be used within the working life. Do not aerate the mix.

Broadcast Method: Apply mixed FLEXOLITH binder to the prepared surface using roller, notched

Material Properties @ 75°F & 50% RH

Mixing Ratio by volume (Part A:B)	1:1
Mixed Viscosity, cps	1700
Brookfield Viscometer, Model RVT	
Gel Time, min., ASTM C881, Class B	>30
ASTM D638	
Tensile Strength, psi	2700
Tensile Elongation, %	30-60
ASTM D695	
Compressive Strength, psi	5000
Compressive Modulus, psi	130,000
ASTM C109 (3 parts sand)	
Compressive Strength, psi, Mortar	
@ 4 hours at 75°F	1400
@ 24 hours at 75°F	7040
AASHTO T277, ASTM C1202,	
Chloride Permeability	<100 coulombs
Hardness, Shore D, ASTM D2240, min.	65
Water Absorption, 24 hr. % ASTM D570	<0.5
Thermal Compatibility, ASTM C884	Passes
Effective Shrinkage, ASTM C883	Passes

- COMPLIANCE:** FLEXOLITH complies with requirements of ASTM C881-99, Type III, Grade 1, Class B and AASHTO M-235, Type III, Grade 1.

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squeegee or spray equipment. Eliminate any puddles with a quick light roller pass. Immediately broadcast clean, dry aggregate to full saturation until no wet spots appear. After the binder has cured, broom or vacuum excess aggregate. Repeat the procedure to build overlay thickness. For easier cleaning an optional seal coat of FLEXOLITH may be applied. A more textured, and higher skid resistant sealed surface is obtained if FLEXOLITH LV is used as the seal coat. **Troweldown Applications:** FLEXOLITH mortar can be applied by trowel. Neat resin should be used as a prime coat prior to application of the mortar. Consult Tamms Technical Service for application recommendations. **Aggregate for Skid Resistant Overlay:** The recommended aggregate for heavy duty applications (high traffic bridge decks, parking deck turn lanes, etc.) is #8 or #9 Basalt, containing at least 10% aluminum oxide as supplied by Tamms. For other applications, or where specified, silica sand aggregate may be used.

8. **COVERAGE:** FLEXOLITH coverage rates are for estimating purposes only. Surface temperature, porosity, and texture will determine actual material requirements.

Overlays			
Broadcast Method:			
		(sq.ft./gal)	
	1st Coat	2nd Coat	Seal Coat
FLEXOLITH	40-50	30-40	100-120
Aggregate (lbs/sq.ft)	1.2-1.5	1.5-2.0	—
Troweldown (mortar):			
FLEXOLITH (neat, prime coat)	200 sq.ft./gal		
Coverage @ 1/4" thickness (Flexolith mortar): 2-3 gals 20/40 mesh sand & 1 gal resin	16-20 sq.ft.		
Seal Coat	150-250 sq.ft./gal		

9. **CLEAN-UP INSTRUCTIONS:** Clean tools and application equipment immediately after use with methyl ethyl ketone or xylene. Clean spills or drips while still wet with same solvent. Dried FLEXOLITH will require mechanical abrasion for removal.
10. **PACKAGING:** FLEXOLITH is available in 4 gallon cases and 10 gallon units. **Storage:** 40-90°F; protect from moisture and freezing. **Shelf life:** Two years in original container and properly stored.
11. **CAUTIONS:** Do not aerate FLEXOLITH during mixing. If FLEXOLITH is to be exposed to chemicals contact Tamms Technical Service for a suitable top coat. Do not store below 40°F. Condition FLEXOLITH at 75°F for 24 hours prior to use.

12. **ENVIRONMENTAL AND SAFETY PRECAUTIONS: Component "A": Industrial Use Only.** Contains epoxy resin. Vapors can cause respiratory irritation. Skin and eye irritant. Can cause sensitization after prolonged or repeated exposure. Use of safety goggles and chemical resistant gloves is recommended. Use only with adequate ventilation. **Component "B":** Is corrosive. Contains amines. Contact with eyes or skin may cause severe burns. Can cause sensitization after prolonged or repeated use. Use of safety goggles and chemical resistant gloves is highly recommended. Use only with adequate ventilation. **First Aid:** In case of skin contact, wash immediately and thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. Consult physician immediately. For respiratory problems, remove person to fresh air. **Disposal:** Collect with absorbent material. Dispose of in accordance with current local, state and federal regulations.

Industrial Use Only. Keep away from heat, sparks, and open flame. Keep Out of Reach of Children. Consult Material Safety Data Sheet for complete product safety information.

EMERGENCY RESPONSE:

1-800-424-9300 (CHEMTREC)
1-800-862-2667 (TAMMS)

13. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

Tamms Industries
3835 State Route 72, Kirkland, IL 60146
800-862-2667, FAX: 815-522-2323
www.tamms.com

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