



FLEXOLITH

LOW-MODULUS EPOXY COATING AND BROADCAST OVERLAY SYSTEM

EUCLID CHEMICAL

DESCRIPTION

FLEXOLITH is a 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. FLEXOLITH is formulated for low temperature applications, or where rapid cure is required. FLEXOLITH SUMMER GRADE is formulated for high temperature applications.

PRIMARY APPLICATIONS

- Parking decks
- Bridges
- Factories
- Warehouses
- Loading docks
- Nosing repair applications

FEATURES/BENEFITS

- Rapid cure, minimizes down-time
- Easy to use
- Can be used as a mortar or broadcast system

TECHNICAL INFORMATION

Material Properties @ 73°F (23°C), 50% RH

Mixing Ratio, by volume (Part A:B)..... 1:1

Mixed Viscosity, cp

ASTM D2556..... 700 to 2,500

Gel Time, ASTM C881, Class B, min..... 14 to 45

Tensile Strength, ASTM D638, psi (MPa)

Final..... >2,000 (13.8)

Tensile Elongation, ASTM D638, %..... 30 to 70

Compressive Strength, ASTM C579, psi (MPa)

@ 4 hours..... >1,000 (6.9)

@ 24 hours..... >6,000 (41.4)

Compressive Modulus, psi (MPa)..... 120,000 (827)

Flexural Strength, ASTM C790, psi (MPa)

Final..... 5,000 (34.5)

Bond Strength, psi (MPa)

ASTM C1583..... >250 (1.7)

Chloride Permeability, ASTM C1202, AASHTO T 77

Final..... <100 coulombs

Hardness Shore D, ASTM D2240, min..... 60±5

Water Absorption, ASTM D570, 24 hr. %..... <0.50

Thermal Compatibility, ASTM C884..... passes

Effective Shrinkage, ASTM C883..... passes

Appearance: FLEXOLITH is available in clear, light gray, dark gray, and tile red. Custom colors are available, but are subject to minimum order quantities.

COVERAGE

Bridge Deck Overlay

Flexolith (ft²/gal (m²/L))

#8 Flint Rock or Basalt (lbs/ft² (kg/m²))

1st Coat

40 (.98)

1.25 to 1.50 (6.1 to 7.3)

2nd Coat

20 to 22 (.49 to .54)

1.50 to 2.00 (7.3 to 9.8)

3rd Coat (Optional)

20 to 22 (.49 to .54)

1.50 to 2.00 (7.3 to 9.8)

Parking Deck Coating

Flexolith (ft²/gal (m²/L))

#9 Flint Rock or Basalt (lbs/ft² (kg/m²))

1st Coat

60 to 80 (1.5 to 2.0)

1.00 to 1.50 (4.9 to 7.3)

2nd Coat

40 to 60 (.98 to 1.5)

1.25 to 1.50 (6.1 to 7.3)

Seal Coat (Optional)

80 to 100 (2.0 to 2.5)

Note: Coverage rates are approximate. Actual coverage depends on temperature, texture, and substrate porosity.

PACKAGING

FLEXOLITH is available in 4 gal (15 L) cases, 10 gal (38 L) units, 100 gal (378 L) units, and 500 gal (1,892 L) totes

SHELF LIFE

2 years in original, unopened, properly stored package

SPECIFICATIONS/COMPLIANCES

ASTM C 881-99, Type III, Grade 1 Class B

AASHTO M 235, Type III, Grade 1

DIRECTIONS FOR USE

Surface Preparation: The surface must be structurally sound, clean and free of grease, oil, curing compounds, soil, dust and other contaminants that may interfere with bond. New concrete and masonry must be at least 28 days old. Surface laitance must be removed. Concrete surfaces must be roughened and made absorptive, preferably by mechanical means, and then thoroughly cleaned of all dust and debris. If the surface was prepared by chemical means (acid etching), a water/baking soda or water/ammonia mixture, followed by a clean water rinse, must be used for cleaning, in order to neutralize the substrate. The Concrete Surface Profile (CSP) should be equal to CSP 4-6 in accordance with Guideline 310.2R-2013, published by the International Concrete Repair Institute (ICRI). Allow substrate to dry before coating application. Following surface preparation, the strength of the surface can be tested if quantitative results are required by project specifications. An elcometer or similar tensile pull tester may be used in accordance with ASTM C1583, and the tensile pull-off strength should be at least 250 psi (1.7 MPa).

Do not apply epoxy or urethane coatings if there is excessive moisture in the concrete or if the moisture vapor emission rate (MVER) is high. Before application of the coating, perform the "Visqueen test" (ASTM D4263, modified to 2 hours). Do not apply coatings when test indicates presence of moisture. After surface preparation, a test section application of the coating system is recommended to confirm good adhesion and compatibility of the coating with the surface, and also to confirm appearance and aesthetics.

When coating steel, all contamination should be removed and the steel surface prepared to a "near white" finish (SSPC SP10) using clean, dry blasting media.

Mixing: Mix FLEXOLITH using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 1 minute each. Combine Part A and Part B in a 1 to 1 ratio by volume, then mix thoroughly for 3 minutes.

To make FLEXOLITH mortar, gradually add clean, dry aggregate to previously mixed FLEXOLITH epoxy and mix thoroughly for 3 minutes. Aggregate types and quantities for mixing are listed in the "Coverage" section above. A low-speed drill and a mixing paddle may be used for small quantities, and a horizontal shaft mortar mixer may be used for large quantities.

Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing. To keep aeration to a minimum, the recommended mixing paddles are #P1 or #P2 as found in ICRI Guideline 320.5R-2014.

Application: See the "Epoxy & Urethane Coatings Application Guide" for installation means and methods. Note that any coverage rates or mixing ratios for epoxy or epoxy-aggregate combinations found in the "Epoxy & Urethane Coatings Application Guide" are approximations, and are for general reference only. For product-specific coverage rates and mixing ratios, refer to this technical data sheet.

The recommended aggregate for heavy duty applications/skid-resistant overlays (high traffic bridge decks, parking deck turn lanes, etc.) is #8 or #9 basalt, #8 or #9 flint rock, or another similarly graded non-slip aggregate. For other applications, or where specified, silica sand aggregate may be used.

CLEAN-UP

Clean tools and application equipment immediately with acetone, xylene, or MEK. Clean spills or drips with the same solvents while still wet. Hardened FLEXOLITH will require mechanical abrasion for removal.

PRECAUTIONS/LIMITATIONS

- Store FLEXOLITH indoors, protected from moisture, at temperatures between 40°F and 90°F (4°C and 32°C)
- Surface and ambient temperature during coating applications should be between 40°F and 90°F (4°C and 32°C)
- Material temperatures should be at least 40°F (4°C) and rising
- Do not apply FLEXOLITH if surface temperature is within 5°F (3°C) of the dew point in the work area
- Working time and cure time will decrease as the temperature increases, and will increase as the temperature decreases
- Do not thin FLEXOLITH
- Do not apply FLEXOLITH to slabs on grade
- Do not apply FLEXOLITH if the substrate is subject to excessive moisture vapor drive or hydrostatic pressure

- Although FLEXOLITH is chemically resistant, surface staining of the coating may occur after contact with some chemicals. Consider the use of a urethane topcoat such as EUCOTHANE for improved stain resistance.
- FLEXOLITH will discolor upon prolonged exposure to ultraviolet light and high-intensity artificial lighting. An aliphatic urethane topcoat such as EUCOTHANE can minimize these effects.
- Depending on the condition of the substrate, minor surface defects can appear in the coating when applied. Proper surface prep, patching of substrate imperfections, and priming will ensure a better overall finish.
- Application of a test area is recommended to confirm final appearance and texture of the system with the end user
- If FLEXOLITH is to be exposed to chemicals, contact Euclid Chemical Technical Service for a top coat recommendation
- In cold weather applications, it is recommended that all materials used in the overlay be conditioned to at least 75°F (24°C) for at least 24 hours prior to use. Heating of the epoxy components and aggregates will enhance cure times and improve material handling characteristics.
- In all cases, consult the product Safety Data Sheet before use

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