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Technical Datasheet

EPOXY-N161 (Novolac)

Two-component, solvent-free, novolac epoxy coating with resistance to concentrated sulfuric acid

CSI Div. 07 & 09
07 18 00 Traffic Coatings
07 18 13 Pedestrian Traffic Coatings
09 96 35 Chemical-Resistant Coatings
09 96 56 Epoxy Coatings

LEED Points
IEQ Credit 4.2, Low-Emitting Materials Paints & Coatings...1 Point
Using this AQUAFIN product can help contribute to LEED certification of projects in the categories shown above.

Product Description:
EPOXY-N161 is a two-component, rigid, novolac epoxy coating with excellent resistance to concentrated sulfuric acid, other strong acids and bases and many chemicals found in industrial environments. When seeded or blended with aggregate, it can be used on properly prepared concrete and steel substrates to provide a chemical resistant surface with excellent slip/skid resistance and wear characteristics.

EPOXY-N161 will bond to properly prepared dry and damp substrates and cures to a tough, blush-free, tile-like surface. In outdoor use, the coating is freeze-thaw resistant and will not embrittle but will acquire a chalky surface when exposed to sunlight.

Advantages:
- Zero VOC's - meets LEED criteria
- Convenient 2:1 (by vol.) mixing ratio
- Suitable for indoor and outdoor applications.
- Applied by brush, roller or with two-component spray equipment.
- Resistant to strong mineral acids and bases as well as organic acids such as acetic and lactic in moderate concentrations.

Substrate Preparation:
- Concrete surfaces to be treated with EPOXY-N161 may be dry or damp but must be sound and free of all bond-inhibiting substances. Remove existing floor coverings, coatings, adhesives, curing compounds, efflorescence, dust, grease, laitance, etc. down to bare concrete via mechanical means such as steel shot blasting, scarifying or grinding to CSP 2 – 3. Concrete Surface Profile as per ICRI Guideline No. 310.2–2013. Standard acid etching is NOT allowed. Repair larger cracks with a suitable patching mortar. Seal small or hairline cracks with EPOXY-Primer. Steel surfaces should be cleaned to ‚white metal' according to SSPC SP 5.

Mixing Instructions:
- In cold weather, preconditioning the components to 70-85°F is suggested for ease of handling.
- Wear safety glasses and clean neoprene rubber gloves when handling the material.
- EPOXY-N161 is a two-component adhesive. The resin to hardener (Part A: Part B) mix ratio is 2:1, by volume. Premix the individual components before drawing from bulk packaging.
- Transfer the accurately measured quantities of Part A and Part B into a mixing container. Use quantities that can be applied before the potlife of the mixed material expires.
- Blend thoroughly using a Jiffy mixer blade attached to a low speed (350 - 750 rpm) electric or pneumatic drill. Proper mixing will take 2 - 3 minutes.

Application Instructions:
- The recommended minimum substrate temperature during application and for cure is 50°F.
- Apply the material after the daily substrate temperature cycle has reached its peak.
- Protect the area to be treated from strong sun light, wind and rain. Indoors, prevent noticeable drafts.
- Apply with a stiff bristle brush, short nap roller, squeegee or airless, heat able, two-component spray equipment.
- When used as a coating, apply in two or more 8 - 10 mil coats rather than one thick coat.
- For optimum chemical resistance, 3 coats are recommended to reduce the potential for holidays. Subsequent coats may be applied as soon as the previous coat is touch-dry. When resistance to strong chemicals is required, a 6 - 8 mil topcoat is recommended.
- When used as a surfacing, pour mixed material onto the substrate and spread to the desired coverage (20 - 30 mils/coat) with a V-notch trowel or squeegee.
- Allow the coating to become tacky to tack-free before applying the next coat. Avoid excessive cure times between coats of more than 48 hours.
- Aggregate, if used, must be broadcast onto the EPOXY-N161 within 15 minutes of applying the coating. The recommended aggregate size is #20x40 or #30x50 mesh. Typical broadcast rates are .75 - 1.5 lb/sq if.
- For additional application information, see ACI 503R, Chapter 7, Applying Epoxy Compounds."

Limitations:
- Store at temperatures between 50°F to 90°F (10°C to 32°C)
- Protect form freezing
- Substrates on or below grade must have a functioning vapor barrier to minimize the potential for blistering or delaminating of the applied coating. If one is not present apply Aquafin VAPORTIGHT COAT-SG2 as a primer to the substrate. Consult TDS for proper application instructions.
- Broadcast aggregate must be resistant to the chemicals used in the exposure area and must be completely encapsulated by a topcoat.
- Exposure to 98% sulfuric acid will cause formation of a reddish surface film that can be removed by washing with water.
- Do not add solvents or otherwise thin this material.

Clean-Up:
All tools and equipment must be cleaned before the mixed material cures. Cleaning can be facilitated with a solvent such as acetone or heavy-duty

detergents. Cured material may be removed from equipment and tools by soaking in an epoxy stripper.

Packaging:

• 3-gallon unit (11.4 L)
Component A: (2) 1-gallon pails (3.78 L per pail)
Component B: (1) 1-gallon pail (3.78 L)

• 15-gallon unit (56.8 L)
Component A: (2) 5-gallon pail (18.9 L per pail)
Component B: (1) 5-gallon pail (18.9 L)

• 150-gallon unit (568 L)
Component A: (2) 55-gallon pails (208 L per pail)
Component B: (1) 55-gallon pail (208 L)

NOTE: Sand aggregate is sold separately and is not included in kits.

Colors Selection:
The standard color is concrete gray (tan-gray). Brick red is also available but may require minimum quantities and/or slightly higher cost.

Shelf Life:
Three years minimum in unopened, original containers when stored between 60 and 90°F in a dry place away from sunlight. Remixing of components may be required upon long-term storage.

Safety:
Refer to SDS for full information. KEEP OUT OF REACH OF CHILDREN. Part A: Liquid epoxy resin, HMIS Health Hazard Rating- 2 (Moderate Hazard). Part B: Liquid epoxy hardener, HMIS Health Hazard Rating- 3 (Serious Hazard).

LIMITED WARRANTY: AQUAFIN, INC. warrants this product for a period of one year from the date of installation to be manufactured free of defects and to be consistent with its technical properties as stated in our current Technical Data Sheet. This product must be used as directed and within its stated shelf life. AQUAFIN INC. will replace or at our discretion refund the purchase price of any product, excluding cost of labor, which is proven to be defective. Our product recommendations are based on industry standards and testing procedures. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. We assume no warranties written, expressed or implied as to any specific methods of application or use of the product. AQUAFIN INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. AQUAFIN, INC. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay. Any claim for a defective product must be filed within 30 days of discovery of a problem, and must be submitted with written proof of purchase.
For Professional Use Only.

Typical Acid Resistance Properties (Weight change upon immersion) @ 73°F	
98% Sulfuric Acid	-0.8 @ 30 days
25% Sulfuric Acid	+0.2 @ 7 days / +0.5 @ 30 days
10% Acetic Acid	+0.2 @ 7 days / +0.9 @ 30 days
50% Lactic Acid	+0.6 @ 7 days / +2.5 @ 30 days

Coverage Rates:	
Coating (2 coat application)	80 - 100 ft.² per gal
Coating (3 coat application)	50 ft.² per gal
Surfacing with a topcoat	40 - 60 ft.² per gal
Notes: Application rates are approximate. Actual coverage may vary due to substrate porosity.	

EPOXY-N161 (Novolac)

Property		Test Method	Value
Mix Ratio, A : B	by volume by weight		2 : 1 100 : 39
Color	Part A Part B Mixed	Visual	Concrete tan-gray Amber Concrete tan-gray
Viscosity, p:	Part A Part B Mixed	ASTM D 2393	68 14 55
Weight per Gallon, lb:	Part A Part B Mixed	ASTM D 1475	10.3 8.3 9.7
Gel Time, 200 g, minutes		ASTM D 2471	40
Thin Film Dry Time, hours:	touch dry hard dry	ASTM D 1640	6 16
Recoat Time, hours:	@ 60° F @ 73° F @ 90° F	in house	10 - 72 6 - 32 4 - 16
Tensile Strength, psi		ASTM D 638	6500
Elongation at Break, %		ASTM D 638	2.0
Compressive Yield Strength, psi		ASTM D 695	10,500
Compressive Modulus, psi		ASTM D 695	300,000
Heat Deflection Temp, °F		ASTM D 648	115
Hardness. Shore D		ASTM D 2240	85
Tabor Abraser, mg loss		ASTM D 4060	117 (2)
Bond Strength To Damp ASTM C 109 Cement Mortar, psi		ASTM D 4547	250 (3)

(1) Cure schedule, 7 days at 73° ± 4° F and test temperature, 73° ± 4° F unless otherwise indicated.
(2) CS-17 wheels, 1000 g load, 1000 cycles.
(3) Compressive strength of cement mortar, 4500 psi.