

CLADLINER™

The Next Generation Hybrid-Epoxy

a product of

CLADLINER™
THE NEXT GENERATION HYBRID EPOXY

The simplicity of a cementitious liner with the performance of a high-build epoxy system all in one product for the first time.

High chemical resistance¹ and **anti-microbial performance**² to combat H₂S, with high density crosslinking of epoxy for barrier sealing of I&I.



CLADLINER proven since 2011, for use in the wet, humid conditions typically found in manhole environments. Formulated to bring the manhole rehab and lining industry a cost-effective, simplistic yet high performance method to restore and line manholes with the familiarity of cements, but cured with the benefits of high build epoxies.

CLADLINER can be effectively used as a resurfacer and liner in a single, simple application.

CLADLINER provides surface tolerance and forgiveness, while allowing for simplicity in applications without performance.

Typical uses:

- **Protective lining** of concrete, brick and masonry wastewater collection systems
- Wastewater collections infrastructure **repair and resurfacing** of sanitary sewers / manholes / lift stations.
- Rehabilitation of an existing structure requiring **enhancement of the structural integrity**
- Barrier to H₂S and **inflow and infiltration (I&I)**
- **Preventive maintenance** for new structures to enhance their longevity



¹ High chemical resistance offers over 250x the chemical resistance of calcium aluminate and 200x more chemically resistant than pure fused calcium aluminate (3rd party university test- conducted by FAU, July 2016). For more information, visit CLADLINER.com

² CLADLINER incorporates in its formula a broad-spectrum of highly effective antimicrobial agents in a product called Xetapak™. Xetapak™ has been clinically tested and has been shown to react with key proteins in a microbe's outer membrane, blocking the transfer of necessary nutrients into the cell.

CLADLINER™

The Next Generation Hybrid-Epoxy

a product of

CLADLINER™
THE NEXT GENERATION HYBRID EPOXY

Packaging: 3.1 gallon kit (net weight: 48.72 lbs)
Sealed 5-gallon pail containing three components:

- A: 128 oz. Component
- B: 16 oz. Component
- C: 35.5 lbs.

* Pail serves as the mixing vessel

Coverage: (3.1 Gal. Kit)

Thickness	Coverage/Kit	VF/Kit*
1/4" (250 mils)	19.25 sq ft (1.8 m ²)	1.5 VF
1/2" (500 mils)	10 sq ft (1.00 m ²)	0.75 VF
1" (1,000 mils)	5 sq ft (0.46 m ²)	0.385 VF

*for 48" manhole

Surface Preparation: Prepare the surface by abrasive blasting, and/or high pressure water cleaning (min), and/or approved mechanical method to achieve clean, sound, and profiled concrete. Prepare in accordance with SSPC-SP 13/NACE No. 6, "Surface Preparation of Concrete;" with an ICRI CSP profile of 3+ for optimal adhesion. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Surface must be dampened prior to applying- surface saturated dry (SSD).

Mixing: Shake individual Part A and Part B well. For Part A, shake until bottom of container shows no more settled solids. Pour liquid Part A into pail. With agitation, slowly add Part B. **Part A and B MUST be mixed thoroughly together first, prior to adding Part C.** When blended and color is consistent, slowly add Part C (powder), while continuing agitation. Do not dump all of the Part C into the liquids at one time. Mix until the cement-sand blend is thoroughly wetted and a smooth consistency/color is obtained. DO NOT add additional Part C or other fillers; DO NOT add more water. USE COMPLETE KIT as it comes, pre-proportioned. In hot humid conditions, mixing should be done slower and thoroughly to avoid clumping and early thickening. Immediately after mix, material viscosity may be slightly thin; therefore, allow material to sit for 3 – 5 minutes prior to use- material will thicken as polymerization occurs. If viscosity increases too much while settling, again, do not add water, instead reagituate and material will thin down again to a smooth consistency.

Application: Hand trowel application using a pool trowel or square edge trowel. Hydraulic spray equipment (i.e. Graco M680/S340 mortar pump or similar) followed by troweling to create required finish. Do not overwork material. Trowel marks may be reduced by using a damp/wrung dry sponge. Clean up with soap and warm water

Limitations: Temperature: 65°F (18°C) min. (air/surface), 65°F (18°C) min. (material). 110°F (35°C) maximum (air, surface, material)
Shelf Life: 24 months (if sealed).

Type: Epoxy cured cement hybrid

Material Color: Blue

of components: 3-parts (A,B,C)

VOCs: 0.1 lbs./gallon

Pot life (@77F): 1.0 hrs.

Cure times (@77F): 3-4 hours (touch dry)
36 hours (full cure)

Freeze/thaw:
ASTM C666 100 cycles, no damage

Chemical resistance:
FAU 33% sulfuric immersion
1.88% (weight loss)
Hydro-sulfuric (H₂S) A-Excellent (up to 400ppm)

Compressive Strength:
ASTM C-109
1 Day 2,350 psi
7 Days 6,875 psi
28 Days 9,780 psi

Modulus of Elasticity:
ASTM C-469
24 hours 3,000,000+ psi
28 days 4,000,000+ psi

Flexural Strength:
ASTM C-293
24 hours 800+ psi
28 days 1,300+ psi

Tensile Strength:
ASTM C-307 650+ psi

Shear Bond:
ASTM C-882 >3,000 psi

Shrinkage:
ASTM C-157 <0.005%

Adhesion:
ASTM D7234 >500 psi (substrate failure)

Safety: Refer to SDS before use

CLADLINER warrants our products to be free of manufacturing defects in accord with applicable quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING SALEABLE OR SUITABLE FOR A PARTICULAR PURPOSE.