ENECON®

Using CHEMCLAD® XC

PLEASE READ THESE INSTRUCTIONS AND MATERIAL SAFETY DATA SHEET (MSDS) CAREFULLY PRIOR TO USE

CHEMCLAD® XC is a two component, 100% solids, ultra high performance, chemical resistant coating that provides unrivaled protection in some of the toughest chemical environments.

CHEMCLAD® XC is resistant to a very broad range of organic and inorganic acids, alkalis, solvents, salts, hydrocarbons, etc. It is easily applied by brush or roller and can be used to protect all types of metal and cementitious surfaces. It is also approved for potable water applications. For your toughest chemical attack problems, use CHEMCLAD® XC.

SURFACE PREPARATION

CHEMCLAD® XC should only be applied to clean, firm, dry, and well roughened surfaces.

1. Remove all loose material and surface contamination.

2. Depending on the surface, solvent clean and / or remove contamination by abrasive blasting, steam cleaning, pressure washing or other suitable means.

3. New concrete should be allowed to cure for a minimum of 28 days prior to treatment. Insure that all laitance is removed from cementitious surfaces before applying CHEMCLAD®.

4. After removing all surface and sub-surface contamination,flush the area as necessary and allow to dry completely.

5. Metallic surfaces should be abrasive blasted to achieve a 'white metal' finish and a 3 mil profile. Commence the application of the CHEMCLAD® XC immediately upon completion of surface preparation and before any oxidation takes place.

PRIMING CONCRETE SURFACES

Prior to applying CHEMCLAD® XC to concrete and / or cementitious substrates, the surface should be treated with CHEMCLAD® P4C to seal the surface, minimize out-gassing and insure that optimum adhesion is obtained. CHEMCLAD® P4C is a two component, water borne, polymeric "adhesion enhancer" specifically formulated to help seal concrete / cementitious surfaces and insure optimum interface bonding between the surface and the CHEMCLAD® SC.

Combine the two components and mix thoroughly until a uniform, streak-free, off-white color is achieved. Apply the mixed CHEMCLAD® P4C to the surface using a brush or roller. Coat the area thoroughly but DO NOT flood or pool the CHEMCLAD® P4C.

After first mixing the Base and Activator components together, the CHEMCLAD® P4C may be thinned using a small amount of water to improve application characteristics.

As a guide, the maximum amount of water which may be added is 1 part water to 4 parts mixed CHEMCLAD® P4C. While thinning with water does not increase coverage rate, it will help insure that the optimum coverage rate is achieved for the given surface conditions.

While surface contour, roughness, porosity, etc. can affect coverage rate, as a guide, each kilogram of CHEMCLAD® P4C will cover approximately 70 - 80 square feet (6 - 7 square meters) when applied at the recommended dry film thickness of 3 mils on a relatively smooth, uniform surface.

Note: Should less than a full unit quantity of CHEMCLAD® P4C be required for a particular application, a partial mix can be accomplished by mixing 2 parts Base to 5 parts Activator by volume (2:5, v/v).

All CHEMCLAD® P4C must be applied and overcoated with CHEMCLAD® XC in accordance with the following guidelines:

CHEMCLAD® P4C Technical Data

Theoretical coverage rate per kg. @ 3 mils. 70 - 80 ft^2 / 6 - 7 m^2

Mixing ratio	Base	Activator	
-by volume	2	5	
-by weight	2	5	
Ambient Temperature	Working Life	Minimum Overcoating	Maximum Overcoating
41°F 5°C	120 min	16 hrs	48 hrs
59°F 15°C	75 min	12 hrs	36 hrs
77°F 25°C	60 min	8 hrs	24 hrs
86°F 30°C	50 min	5 hrs	16 hrs

Note: On severely pitted concrete floors / floor areas, the use of the ENECLAD® Self Priming Screed is recommended as an alternative to the CHEMCLAD® P4C.

Note: Coverage will be reduced on very rough and / or porous surfaces.

The application of the CHEMCLAD® XC may commence when the applied P4C reaches its minimum overcoating time and should be completed within its maximum overcoating time as listed in the chart on the left. For additional details concerning the use of the P4C, please refer to the appropriate section of the CHEMCLAD® XC instructions supplied with the material.

MIXING AND APPLICATION

CHEMCLAD® XC is supplied in pre-measured quantities to simplify mixing of full units. Simply pour the contents of the Activator container into the Base container; then, using the supplied stirrer or a paint mixer in an electric drill, mix thoroughly until a uniform, streak-free color is achieved. Apply the mixed CHEMCLAD® XC to the prepared (and / or primed) surface using a brush, squeegee or roller. As a guide, a coverage rate of 30 - 35 square feet (3 square meters) per kilogram should result in an applied thickness of approximately 10 - 12 mils on a relatively smooth surface.

Note: Shape, contour, porosity, roughness, etc. will affect the coverage obtainable. Since a minimum of two coats are recommended, CHEMCLAD® XC is available in different colors to simplify overcoating.

Technical Data

Volume capacity per kg.	52 in^3 / 854 cc	
Mixed density	0.042 lbs per in^3 / 1.17 gm per cc	
Coverage rate per kg. @ 10-12 mils.	30 - 35 ft^2 / 3 m^2	
Shelf life	Indefinite	
Volume solids	100%	
Mixing ratio	Base	Activator
By volume	1.4	1
By weight	5	3

Working Life & Cure Times

Ambient Temperature		Working Life	Touch Dry	Maximum Overcoating	Full Cure
41°F	5°C	50 min	24 hrs	30 hrs	7 days
59°F	15°C	40 min	8 hrs	24 hrs	6 days
77°F	25°C	30 min	4 hrs	20 hrs	4 days
86°F	30°C	25 min	3 hrs	16 hrs	3 days

Physical Properties

Tensile Shear Adhesion	Typical Values		Test Method
Steel	2900 psi	203 kg/cm^2	ASTM D-1002
Aluminum	2400 psi	168 kg/cm^2	ASTM D-1002
Copper	2500 psi	175 kg/cm^2	ASTM D-1002
Stainless steel	2700 psi	189 kg/cm^2	ASTM D-1002

Elcometer Adhesion - to properly prepared cementitious surfaces is greater than the cohesive strength of the substrate.

Chemical Resistance

Acetic acid (0-10%)	EX	Methyl alcohol	G
Acetic acid (10-20%)	G	Methyl ethyl ketone	G
Acetone	G	Naptha	EX
Aviation fuel (JP-4)	EX	Nitric acid (0-20%)	EX
Brake fluid	EX	Phenol	G
Butyl alcohol	EX	Phosphoric acid (0-50%)	EX
Calcium chloride	EX	Potassium chloride	EX
Carbon tetrachloride	G	Propyl alcohol	EX
Chloroform	G	Skydrol	EX
Crude oil	EX	Sodium chloride	EX
Diesel oil	EX	Sodium hydroxide	EX
Ethyl alcohol	EX	Sulfuric acid (0-20%)	EX
Gasoline	EX	Sulfuric acid (50%)	EX
Heptane	EX	Sulfuric acid (98%)	EX
Hydrochloric acid (0-20%)	EX	Toluene	EX
Kerosene	EX	Xylene	EX

EX - Suitable for most applications including immersion.
G - Suitable for intermittent contact, splashes, etc.

HEALTH & SAFETY

Every effort is made to insure that ENECON® products are as simple and safe to use as possible. Normal industry standards and practices for housekeeping, cleanliness and personal protection should be observed. For further information and guidance, please refer to the detailed MATERIAL SAFETY DATA SHEETS (MSDS) supplied with the material and also available on request.

CLEANING EQUIPMENT

Wipe excess material from tools immediately. Use acetone, MEK, isopropyl alcohol or similar solvent as needed.

TECHNICAL SUPPORT

The ENECON® engineering team is always available to provide technical support and assistance. For guidance on difficult application procedures or for answers to simple questions, call your local ENECON® Fluid Flow Systems Specialist or the ENECON® Engineering Center.

All information contained herein is based on long term testing in our laboratories as well as practical field experience and is believed to be reliable and accurate. No condition or warranty is given covering the results from use of our products in any particular case, whether the purpose is disclosed or not, and we cannot accept liability if the desired results are not obtained.

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