



## Using CeramAlloy® CBX

### Extraordinary Abrasion Resistant Polymer Composite.

#### PLEASE READ THESE INSTRUCTIONS AND SAFETY DATA SHEET (SDS) CAREFULLY PRIOR TO USE

METALCLAD® CeramAlloy® CBX is a three component, 100% solids, polymer composite specifically formulated to provide effective repair and rebuilding characteristics on all types of equipment subject to severe abrasion.

CeramAlloy® CBX is a paste when mixed, so it is easily applied. When cured, however, CBX becomes a metal-hard, highly abrasion resistant compound engineered to repair deeply damaged components in the most aggressive abrasive environments.

#### SURFACE PREPARATION

CeramAlloy® CBX should only be applied to clean, firm, dry, and well roughened surfaces.

1. Remove all loose material and surface contamination with a suitable solvent which leaves no residue on the surface after evaporation such as acetone, MEK, isopropyl alcohol, etc.
2. Clean / roughen surfaces by abrasive blasting.
3. If necessary, apply moderate heat and / or allow the component(s) to 'leach' to remove ingrained contaminants.
4. Thoroughly roughen surfaces by abrasive blasting to achieve a 'white metal' degree of cleanliness and an anchor pattern of 3 mils.

Note: In situations where adhesion is not desired, such as when making molds and patterns or to ease future disassembly, apply a suitable release agent (mold release compound, paste wax, etc.) to the appropriate surfaces.

#### PRIMING THE SURFACE

A 250 gm unit of CeramAlloy® CL+AC is supplied as a primer in each 5 kg CeramAlloy® CBX system. Pour the contents of the Activator container into the Base container and mix thoroughly. Prime the area to be treated with the mixed CeramAlloy® CL+AC using a stiff-bristled brush. As a guide, an even thickness of approximately 10 - 12 mils should be obtained. Priming should be completed within 45 minutes of mixing. Overcoating with CeramAlloy® CBX should ideally be performed when the priming layer of CeramAlloy® CL+AC is just tacky and certainly within 8 hours of application.

Note: CeramAlloy® CL+AC is available separately as a primer for the 20 kg units of CeramAlloy® CBX.

#### MIXING AND APPLICATION

For your convenience, the CeramAlloy® CBX Base, Activator and Aggregate have been supplied in precisely measured quantities to simplify mixing of full units. Should a small amount of material be required, measure out 5 parts Base and 2 parts Activator and 14 parts Aggregate, by volume (5:2:14, v/v). To facilitate mixing of full units, a mechanical mixing device is strongly recommended. Combine the Base and Activator in the large, plastic bucket and, with the mixer running, slowly add the Aggregate.

Apply the mixed CeramAlloy® CBX to the prepared and Primed surface using a trowel, putty knife, or other appropriate tool, pressing well to insure intimate contact and force out any air entrapped as a result of the mixing technique and / or device used.

#### Technical Data

Volume capacity per 5 kg.	110 in <sup>3</sup> / 1790 cc		
Mixed density	0.100 lbs per in <sup>3</sup> / 2.76 gm per cc		
Coverage rate per kg. @ 200 mils / 5 mm	3.78 ft <sup>2</sup> / 0.35 m <sup>2</sup>		
Shelf life	Indefinite		
Volume solids	100%		
Mixing ratio	Base	Activator	Aggregate
By volume	5	2	14
By weight	7	2	20

#### Working Life & Cure Times

Ambient Temperature	Working Life	Full Mechanical	Chemical Immersion
59°F 15°C	30 min	48 hrs	3 days
77°F 25°C	20 min	24 hrs	2 days
86°F 30°C	15 min	16 hrs	1 day

#### Physical Properties

	Typical Values		Test Method
Compressive strength	16,000 psi	1125 kg/cm <sup>2</sup>	ASTM D-695
Flexural strength	6,000 psi	422 kg/cm <sup>2</sup>	ASTM D-790
Hardness - Shore D	86		ASTM D-2240
Tensile Strength	2,500 psi	176 kg/cm <sup>2</sup>	ASTM D-2370
Tensile Shear Adhesion (CL+AC primer to substrate)			
Steel	4000 psi	280 kg/cm <sup>2</sup>	ASTM D-1002
Aluminum	2500 psi	175 kg/cm <sup>2</sup>	ASTM D-1002
Copper	3000 psi	210 kg/cm <sup>2</sup>	ASTM D-1002
Stainless steel	4100 psi	287 kg/cm <sup>2</sup>	ASTM D-1002

#### Chemical Resistance

Acetic acid (0-10%) . . . . .	G	Methyl alcohol . . . . .	G
Ammonium hydroxide (0-10%) . . .	EX	Mineral oil . . . . .	EX
Aviation fuel . . . . .	EX	Nitric acid (0-10%) . . . . .	EX
Butyl alcohol . . . . .	EX	Nitric acid (10-20%) . . . . .	G
Calcium chloride . . . . .	EX	Phosphoric acid (0-10%) . . . . .	G
Crude oil . . . . .	EX	Potassium chloride . . . . .	EX
Diesel fuel . . . . .	EX	Propyl alcohol . . . . .	EX
Ethyl alcohol . . . . .	G	Sodium chloride . . . . .	EX
Gasoline . . . . .	EX	Sodium hydroxide . . . . .	EX
Heptane . . . . .	EX	Sulfuric acid (0-10%) . . . . .	EX
Hydrochloric acid (0-10%) . . . . .	EX	Sulfuric acid (10-20%) . . . . .	G
Hydrochloric acid (10-20%) . . . . .	G	Toluene . . . . .	G
Kerosene . . . . .	EX	Xylene . . . . .	EX

EX - Suitable for most applications including immersion. G - Suitable for intermittent contact, splashes, etc. NR- Not recommended

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## 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.

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