



Using CeramAlloy® HTL

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

METALCLAD® CeramAlloy® HTL is a two component, 100% solids, liquid polymer composite used for repairing, resurfacing and coating both damaged and new components to provide outstanding erosion and corrosion resistance at elevated temperatures.

When mixed, CeramAlloy® HTL is a viscous liquid. CeramAlloy® HTL cures to a hard, ceramic-like material with an extremely smooth surface finish. It has been specifically developed for elevated temperature applications.

SURFACE PREPARATION

METALCLAD® CeramAlloy® HTL should only be applied to clean, dry and well roughened surfaces.

1. Remove all loose material and surface contamination and clean with a suitable solvent which leaves no residue on the surface after evaporation such as acetone, MEK, isopropyl alcohol, etc.
2. Clean/roughen surface 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.

MIXING AND APPLICATION

Since the mixing ratio of the Base and Activator components is CRITICAL, the CeramAlloy® HTL Base and Activator have been supplied in precisely measured quantities. Simply pour the entire contents of the Activator container into the Base container and, using a spatula, putty knife or other appropriate tool, mix thoroughly until the CeramAlloy® HTL reaches a uniform, streak-free color.

Apply the mixed material to the prepared surface using a stiff-bristled brush, flexible applicator or roller. As a guide, an even thickness of approximately 12-15 mils per coat should be obtained. A minimum two coat application is required.

Overcoating should ideally be performed when the previously applied coat is just surface tacky; and certainly within 8 hours of the previous coat.

Technical Data

Volume capacity per kg.	38 in ³ / 629 cc	
Mixed density	0.057 lbs per in ³ / 1.59 gm per cc	
Coverage rate per kg. @ 12 - 15 mils	14 - 16 ft ² / 1.4 m ²	
Shelf life	Indefinite	
Volume solids	100%	
Mixing ratio	Base	Activator
By volume	3	1
By weight	4.6	1

Working Life & Cure Times

Ambient Temperature		Working Life	Machining Light Load	Full Mechanical	Chemical Immersion
59°F	15°C	1.5 hrs	20 hrs	48 hrs	5 days
77°F	25°C	40 min	10 hrs	18 hrs	3 days
86°F	30°C	25 min	7 hrs	15 hrs	2 days

Physical Properties

	Typical Values		Test Method
Compressive strength	12,000 psi	840 kg/cm ²	ASTM D-695
Flexural strength	8,500 psi	595 kg/cm ²	ASTM D-790
Hardness - Shore D	87		
Tensile Shear Adhesion			
Steel	4000 psi	280 kg/cm ²	ASTM D-1002
Aluminum	2500 psi	175 kg/cm ²	ASTM D-1002
Copper	3000 psi	210 kg/cm ²	ASTM D-1002
Stainless steel	4100 psi	287 kg/cm ²	ASTM D-1002

Chemical Resistance

Ammonia (5%)	EX
HCL (20%)	G
Motor oil	EX
NaCl (5%)	EX
Sulfuric acid (98%)	G
Sulfuric acid (50%)	EX

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

Temperature Guidelines

Up to:
Dry - 520°F / 270°C
Wet - 330°F / 165°C

We would always recommend that elevated temperature applications be discussed with your local ENECON Fluid Flow Systems Specialist.

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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