ENECON®

Using DuraTough™ DL

Cavitation Resistant Resurfacing Elastomeric Polymer Composite.

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

FLEXICLAD® DuraTough™ DL is a two component, 100% solids, fluid consistency elasto-ceramic polymer composite specifically formulated to surface and protect equipment subject to cavitation accelerated erosion / corrosion.

FLEXICLAD® DuraTough™ DL combines the superior strength, durability and adhesion of an epoxy with the exceptional flexibility, abrasion resistance and shock-absorbancy of an elastomeric urethane.

SURFACE PREPARATION

FLEXICLAD® DuraTough™ DL 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.

PRIMING THE SURFACE

FLEXICLAD® Primer is supplied in each kit of DuraTough™ DL (Green). After removing the divider, combine the Primer Base and Activator in the clear plastic packet, mixing until a uniform, streak-free color is obtained. Apply the Primer using a brush; be sure to 'stipple' the rough areas to insure complete coverage (wetting) of all exposed surfaces.

Primer Working Life & Overcoat Window

Ambient Temperature		Working Life	Maximum Overcoating
41°F	5°C	4 hr	24 hrs
59°F	15°C	90 min	16 hrs
77°F	25°C	30 min	10 hrs
86°F	30°C	20 min	6 hrs

MIXING AND APPLICATION

For your convenience, the FLEXICLAD® DuraTough™ DL 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 DuraTough™ DL reaches a uniform, streak-free color. Apply the mixed material to the prepared and Primed surface using a stiff-bristle brush or flexible applicator. As a guide, an even thickness of approximately 30-35 mils per coat should be obtained. A minimum two coat application is required. Overcoating is ideally performed when the previously applied coat is just surface tacky and must be completed within 6 hours at 77°F / 25°C of the previously applied DuraTough™.

Technical Data

Volume capacity per 1/2 kg.	27 in^3 / 442 cc
Mixed density	0.041 lbs per in^3 / 1.13 gm per cc
Coverage rate per 1/2 kg. @ 30-35 mils	5 - 6 ft^2 / 0.5 m^2
Shelf life	Two years
Volume solids	100%

Mixing ratio	Base	Activator
By volume	5.7	1
By weight	6.5	1

Working Life & Cure Times

Ambient Temperature		Working Life	Initial Set	Maximum Overcoating	Full Cure
41°F	5°C	50 min	4 hrs	12 hrs	5 days
59°F	15°C	45 min	2 hrs	8 hrs	4 days
77°F	25°C	30 min	1 hrs	6 hrs	3 days
86°F	30°C	15 min	45 min	4 hrs	36 hrs

Physical Properties

	Typical Values		Test Method
Hardness - Shore D	55		ASTM D-2240
Tensile Shear Adhesion			
Steel	1200 psi	84 kg/cm^2	ASTM D-1002
Aluminum	1050 psi	74 kg/cm^2	ASTM D-1002
Copper	1200 psi	84 kg/cm^2	ASTM D-1002
Stainless steel	1100 psi	77 kg/cm^2	ASTM D-1002
Peel Adhesion	greater than 30 pli		ASTM D-1876
Comparative Cavitation Resistance -Frequency: 20 KHZ; amplitude: 0.001 inches			ASTM G-32
316 Stainless steel	60 microns		CMDL*
DuraTough™ DL	50 microns		CMDL*
Carbon Steel	240 microns		CMDL*

*Cumulative Mean Depth of Loss

Chemical Resistance

Acetic acid (10%)	NR	Methanol	NR
Ammonium hydroxide (10%)	G	Mineral oil	G
Ammonium hydroxide (30%)	NR	Oxalic acid	G
Butyl cellosolve	NR	Phosphoric acid (10%)	G
Ethanol	NR	Phosphoric acid (50%)	NR
Ethanol glycol	G	Sodium hydroxide (10%)	EX
Hexane	G	Sodium hydroxide (50%)	EX
Hydrochloric acid (10%)	G	Sulfuric acid (10%)	G
Isoprophyl alcohol	G	Toluene	NR
MEK	NR	Trichloroethylene	NR

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

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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