CERAMIC PARTICLE LOADING

The CeRam-Kote 54® coating technology, **ceramic particle loading**, results from our unique ability developed over thirty years and the trial of hundreds of formulas. Ceramic particle loading is the addition of a complex series of ceramic particles into a resin solution which causes the resin solution to out-perform its basic chemistry.

The *FLEXIBLE* Ceramic

In addition to improving the chemical performance of resin systems, ceramic particle loading significantly enhances the dynamic mechanical performance of the resin system.

Total performance characteristics of CeRam-Kote 54®, both chemical and mechanical, are significantly better than liquid epoxy, fusion-bond epoxy and other high performance coating systems.

ENCAPSULATING CERAMIC SHELL

CeRam-Kote 54® protects by binding ceramic particles to a unique resin system, thus creating an **encapsulating ceramic shell**. Each ceramic particle is resin coated and becomes tightly packed in the cured film.

The **compact density** of the cured film of CeRam-Kote 54® yields dynamic intangible benefits such as:

- **high surface lubricity** producing a lower drag coefficient on a variety of surfaces, and
- extraordinary **sliding abrasion** resistance providing protection against the forces of erosion/corrosion and abrasion.

TOUGH BARRIER COATING

CeRam-Kote 54® is a **tough barrier coating** for total immersion service that is compatible with antifouling bottom coatings.

CeRam-Kote 54®'s **direct-to-substrate** one-coat, two-pass system translates to increased production efficiency and significantly reduced down-time, essential in industry today.

CeRam-Kote 54® is formulated for atmospheric corrosion service as well as for immersion service in very harsh environments. CeRam-Kote 54® currently protects expensive and critical equipment in industries serving Oil and Gas, Offshore, Marine, Petrochemical and Industrial Markets with proven documented results. Applications have expanded into the Food and Beverage, Paper and Pulp, Wastewater Treatment, Electrical Power, Transportation and Mining Industries.

Extremely high adhesion to virtually any substrate combined with extraordinary mechanical properties, make CeRam-Kote 54® a superior protective coating where high abrasion and severe corrosion problems exist.

These test results are for marketing purposes only. Production test results will vary.

PHYSICAL PROPERTIES – TEST DATA	
Adhesion (ASTM D4541, elcometer pull-off)	**>3,680 psi (25.37 MPa)***
Abrasion Resistance (ASTM D 4060, Tabor Test 1,000 cycles, CS 17 wheel, 1kg))	**27 milligrams loss****
Surface Roughness (Profilometer value)	**20 Ra**
Flexibility (ASTM D 522)	**15% elongation**
Impact Resistance - Direct (ASTM D 2794)	**50 inch-pounds**
Impact Resistance - Reverse (ASTM D 2794)	**13 inch-pounds**
Impact Resistance - Direct (ASTM G 14)	**97 inch-pounds**
Static Coefficient of Friction (ASTM D 4518)	**0.152 mean static friction value**
Dielectric Strength (ASTM D 149)	**>1,750 volts/mil (>68 volts/micron)**
Salt Spray (ISO 7253)	**6,000 hours**
Cyclic Corrosion (ASTM D5894)	**Pass**
Fire Rating Over Steel (ASTM E84-91a)	**Smoke Density– Class 1** **Flame Spread– Class 1**
Chemical Testing (ASTM G 20 – modified to 30 days at 75°F/23.9°C) HCL in H_20: pH of 2.9 HF in H_20: pH of 2.9 H_2SO_4 in H20: pH of 2.1 NaCl (10%) + H_2SO_4: pH of 2.9 NaCl (10%) in H_20	 **No Change** **No Change** **No Change** **No Change** **No Change**
VOC (Volatile Organic Compounds)	**1.63 lb/gal (196 g/lit)** (calculated value)

**Adhesion test values for normal production can vary up to 35%.*
***Abrasion test values for normal production has a max acceptable value of 75 mg loss.*

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