MAXKOTE

APPLICATION GUIDE

APG-REV2- 2022

M-CERAMIC 501 – EPOXY CERAMIC HIGH TEMPERATURE & ACID RESISTANT COATING

M-CERAMIC 501 – Epoxy Ceramic High Temperature & Acid Resistant Coating

The coating is designed principally for the long-term protection of Fluid-Flow and Process Equipment such as pressure vessels, scrubber units, process columns etc.

Once cured M-CERAMIC 501 – Epoxy Ceramic High Temperature & Acid Resistant Coating provides a hard-wearing sacrificial barrier, protecting the parent metal from erosion, corrosion, and chemical attack.

The product is ideal for water and aqueous/hydrocarbon mixtures at elevated temperatures up to 110°C.

Typical Uses

- Lining for Pumping Systems & Valves
- Lining for Scrubber Units
- Protection for Corroded Heat Exchangers
- High Temperature Coating for Process Equipment
- Wear Resistant Coating for Fans & Fan Casings
- Internal lining for Pipework

Application Guide

Surface Preparation - Grit-Blast

- All oil and grease must be removed from the surface using an appropriate cleaner such MEK or similar type solvent.
- All surfaces must be abrasive blasted to ***ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2)*** minimum blast profile of 75 microns using an angular.
- Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type solvent.
- All surfaces must be coated before gingering or oxidation.

Surface Preparation - Salt Contamination

- Note: For salt contaminated surfaces the substrate must be pressure washed with clean water and checked for salt contamination, please refer to the surface preparation and pre-application guide for further information.

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Environmental Checks
Prior to mixing, please ensure the following:

- Warm the base component is at a temperature between 15-25°C.
- Do not apply the material when the ambient or substrate temperature is below 10°C or less than 3°C above dew point.

Mixing

- Mix both Part-A and part-B together in full units as supplied. For small quantities us a mixing ratio of **7:1 by volume or 18:1 by weight**
- When mixing both materials, it is particularly important to have a uniform colour that is streak free.
- Use the mixed coating as soon possible after mixing.

Use all mixed material within 20 minutes at 20°C
Product Application

- Stripe coat all edges, corners.
- Apply the coating at minimum 600 microns using the applicator provided or short-bristled brush.
- The basecoat should be applied at a minimum thickness of 600 microns using a short-bristled brush.
- Ensure the coating is forced into the blast profile.
- Allow the basecoat to cure for approximately 16 hours at 20°C.
- Remove any dust or debris before washing with MEK.
- Once the basecoat has cured hard enough apply the topcoat at a minimum thickness of 300 microns using a short-bristled brush.
- Post curing will result in improved mechanical, thermal and chemical resistance properties.

Technical Information

Appearance	Base	Grey paste
	Activator	Amber liquid
	Mixed	Grey viscous liquid
Mixing Ratio	By Weight	18:1
	By Volume	7:1

Density	Base Activator Mixed	2.55 0.97 2.35
Volume Capacity		425cc/kg
Solids Content		100%
Sag Resistance	Nil at	1000 microns
Usable Life	10°C 20°C 30°C	50 minutes 25 minutes 12.5 minutes
Cure Times at 20°C	Minimum sweep-blast time Maximum sweep-blast time Full cure	16 hours 48 hours 3 days
Coverage	1kg of fully mixed product will provide the following coverage rates: 300 microns 400 microns 500 microns 600 microns	 1.415m² 1.063m² 0.850m² 0.708m²
Storage Life	Unopened and stored in dry conditions (15-30°C)	5 years
Abrasion Resistance	Taber CS17 Wheels/1 Kg load	28mm³ loss/1000 cycles
Pull off Adhesion	Tested to ASTM D4541 on abrasive blasted mild steel with 75-micron profile	348kg/ cm² (4950psi)

Tensile Shear Adhesion	Tested to ASTM D1002 on abrasive blasted mild steel with 75-micron profile	245kg/ cm² (3480psi)
Compressive Strength	Tested to ASTM D 695	1046kg/cm² (14880psi)
Corrosion Resistance	Tested to ASTM B117	5000 hours
Flexural Strength	Tested to ASTM D790	614kg/cm² 8710ps
Hardness	Shore D to ASTM D2240	20°C 89 100°C 87 150°C 86 200°C 82 240°C 78
Heat Distortion	Tested to ASTM D648 at 264psi fibre stress:	
	20°C Cure 100°C Cure 150°C Cure	47°C 126°C 172°C
Impact Resistance	Tested to ASTM D256	32J/m
Heat Resistance	Tested to ASTM D2485 Dry heat resistance up to:	240°C
Chemical Resistance	The product resists attack by a wide variety of aqueous non-acidic solutions and hydrocarbon oils at elevated temperature and other media at lower temperatures.	

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Legal Notice

The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control.

It is the responsibility of the customer to determine the products suitability for use.

Maxkote accepts no liability arising out of the use of this information or the product described herein.