MAXKOTE

APPLICATION GUIDE

APG-REV2- 2022

M-CERAMIC 300 – EPOXY CERAMIC EFFICIENCY COATING

M-CERAMIC 300 - Epoxy Ceramic Efficiency Coating

This is a high-performance Epoxy Ceramic Efficiency Coating with excellent erosion characteristics.

The coating is formulated using the latest solvent free, epoxy resin systems, enhanced further with the addition of high-quality graded silicon carbide fillers.

M-CERAMIC 300 – when cured has an ultra-high gloss surface finish, this helps to reduce internal friction in pumps, improve pumping efficiencies, and help to lower energy consumption.

M-CERAMIC 300 – Epoxy Ceramic Efficiency Coating is designed for the long-term protection of Pumping Systems and other Fluid Flow Equipment.

The product is supplied as a 2-component product **(PART – A & PART- B**), that requires mixing before use, once mixed the product can be applied directly to prepared metal surfaces by brush, squeegee or plastic applicator.

Typical Uses

- Improve Efficiency in Fluid Flow Equipment

Application Guide

Surface Preparation - Grit-Blast

- All oil and grease must be removed from the surface using an appropriate cleaner such as 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 - Manual

- All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
- All surfaces must be mechanically abraded using handheld grinders to ISO 8501/4 ST3 (SSPC SP3 ST3).
- Once abraded, the surface must be degreased and cleaned using MEK or similar type material.

- All surfaces must be repaired before gingering or oxidation occurs.

Environmental Checks
Prior to mixing, please ensure the following:

- The base component is at a temperature between 15-25°C.
- Do not apply the material when the ambient or substrate temperature is below 5°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 **3:1 by volume or 5:1 by weight**.
- When mixing both materials, it is particularly important to have a uniform grey paste that is streak free.
- Once mixing is complete, use the mixed paste as soon possible after mixing.

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

- Apply the mixed material directly to the prepared surface as soon as possible after mixing. For best results the material has been designed to be applied as a two-coat system.
- **Basecoat** should be applied directly to prepared and cleaned metal surface at a minimum wet film thickness of 250 microns. (Light grey fluid) using a short-bristled brush, spatula, squeegee or plastic applicator.
- **Topcoat** should be applied directly over the basecoat as soon as the basecoat is touch but not exceeding 6 hours. Apply at a minimum wet film thickness of 250 microns (blue fluid) using a short-bristled brush, spatula, squeegee, or plastic applicator.

Technical Information

Appearance	Base	Blue or light grey paste
	Activator	Amber liquid
	Mixed	Thixotropic blue or light grey liquid
Mixing Ratio	By Weight	5:1
	By Volume	3:1
Density	Base	1.67
	Activator	1.05
	Mixed	1.52

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Volume Capacity		657cc/kg
Solids Content		100%
Sag Resistance	Nil at	400 microns
Usable Life	10°C 20°C 30°C	40 minutes 20 minutes 10 minutes
Coverage	1kg unit of mixed product at a nominal thickness of	200 microns 3.235m² 250 microns 2.628m² 300 microns 2.188m²
Cure Times @ 20°C	Minimum-overcoating time Maximum- overcoating time Full Cure	2 hours 6 hours 2 days
Storage Life	Unopened and stored in dry conditions (15-30°C)	5 years
Abrasion Resistance	Taber CS17 Wheels/1 Kg load	24mm³ loss/1000 cycles
Adhesion	Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75-micron profile	187kg/ cm² (2650psi)
Adhesion	Pull off Adhesion to ASTM D4541 on abrasive blasted mild steel with 75-micron profile	202kg/ cm² (2880 psi)
Compressive Strength	Tested to ASTM D 695	735kg/cm² (10,450psi)
Corrosion Resistance	Tested to ASTM B117	5000 hours
Flexural Strength	Tested to ASTM D790	570kg/cm² (8100psi)
Hardness	Rockwell R to ASTM ASTM D785	85

Heat Distortion	Tested to ASTM D648 at 264psi fibre stress.	20°C Cure 46°C 100°C Cure 82°C
Heat Resistance	Suitable for use in immersed conditions at temperatures up to: Resistant to dry heat up to:	70°C 200°C Dependant on load
Chemical Resistance	The product resists attack by a wide variety of inorganic acids, alkalis, salts, and organic media.	

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