



## CORROPIPE® 2000

### TECHNICAL DATA

### ULTRA HIGH DESIGN PIPELINE COATING

#### THE PRODUCT AND ITS USES

CorroPipe® 2000 is the latest generation of high performance pipe coating which combines familiar handling characteristics with performance attributes that ensure a design life of 75 to 100 years. It is applied in the same manner as Madison's traditional 1:1 instant-setting polyurethane products, in a single multi-pass direct-to-metal coat.

In addition to all the other properties normally associated with Madison's pipeline coatings, CorroPipe® 2000 offers industry-leading attributes in terms of adhesion (including wet adhesion), perm rating, water absorption, impact resistance and resistance to cathodic disbondment. When applied, it achieves its adhesion quickly, enabling the applicator to coat, inspect and ship pipe in the same shift. The familiar toughness of CorroPipe® makes it ideal for both interior applications (e.g. abrasive slurries, raw water etc.) and exterior (including rock shield, slip bore and directional drill applications).

Two setting times are available; a one minute version for in-plant production and a five minute version for in-situ convenience. For unusually abrasive conditions and even higher impact resistance, specify the CM (ceramic modified) version of CorroPipe® 2000, which contains Madison NanoShield™, a form of ceramic nanospheres that enhance the already high abrasion resistance of this product.

#### TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-40°C(-40°F) to 65°C (150°F)
Initial Setting Time	@20°C/70°F	1 minute (snap set); 5 minutes (fast set)
Curing Time Before Handling	@20°C/70°F	5 minutes (snap set); 15 minutes (fast set)
Ultimate Cure	@20°C/70°F	5 days
Recoat Time*	@20°C/70°F	Within 30 minutes (snap set); within 1 hour (fast set)
Solids Content	ASTM D-1259	100%
Volatile Organic Compounds (VOCs)	ASTM D-2369	0 grams/litre
Theoretical Coverage	N/A	1604 ft <sup>2</sup> /US gal/mil; 1016 mt <sup>2</sup> /lire/micron
Adhesion to Steel	ASTM D-4541 (SSPC-10)	4 hour, 1,800 ± 200 p.s.i.; 24 hour, > 3,000 p.s.i.
Hardness	ASTM D-2240 Shore D	75 +/- 5
Flexibility	ASTM D-522	180° over 3" mandrel
Abrasion Resistance	ASTM D-4060 (CS-17 wheels, 1kg weights, 1000 revolutions)	40 to 45 mg (standard version) 30 to 35 mg (CM version)
Resistance to Cathodic Disbondment	CSA Z225 (65°C, 48 hours, 20mils)	< 5 mm average results
Chemical Resistance	ASTM D-543	Excellent; See Chemical Resistance Chart
Dielectric Strength	ASTM D-149	Greater than 200 volts per mil
Surface Resistivity	ASTM D-257	1 x 10 <sup>14</sup> ohms per cm <sup>2</sup>
Impact Resistance	ASTM D-2794 (20 mils)	Excellent; 140 in. lbs ± 15 in. lbs.
Accelerated Weathering	ASTM G-154 (25 hours)	No cracking; some chalking & darkening
Permeability	ASTM E-96	0.02 metric perms
Water Absorption	ASTM D-570	> 1.5 %
Wet Adhesion	ASTM D-870	Pass (no blistering, softening or embrittlement ; Retains more than 80 % of dry adhesion)
Colours		Consult Madison Representative

\*However, recoat window varies depending on ambient and substrate temperatures and coating thickness.

NOTE: All statements, technical information and recommendations contained herein are typical of results obtained under laboratory conditions and are not intended to be used as contract specifications. For specification guidelines please contact Madison Chemical.

## APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED APPLICATION INSTRUCTION BULLETIN.

### A. SURFACE PREPARATION

- 1) Ensure that surface is clean, dry and uncontaminated. Proceed only if the substrate temperature is more than 3°C(5°F) above the dew point temperature during surface preparation and coating application.
- 2) Abrasive blast clean with angular media (sand, slag or steel grit G40 or coarser). DO NOT USE steel shot or non-angular media.  
For **steel** surfaces, blast to a Near White Blast (SSPC-SP10; NACE 2; SA 2.5):
  - minimum 3.0 mil (75 microns) profile for immersion;
  - minimum 2.5 mil (65 microns) profile for buried;
  - minimum 2.0 mil (50 microns) profile for atmospheric service.For **ductile iron** surfaces, abrasive blast to achieve a surface anchor profile of 2.5 mils or greater. Remove all rust and loose oxides.  
For **concrete** surfaces, abrasive blast to remove any laitance.

### B. APPLICATION OF COATING

- 1) Roll or agitate individual components thoroughly before use to disperse pigments and assure homogeneity. Do not thin. Do not mix 'A' and 'B' together.
- 2) Spray apply CorroPipe® 2000 using a plural component, 1:1 mix ratio, heated airless spray unit.
- 3) Unlimited film thickness can be obtained in one continuous coating operation, using one of several techniques. Contact Madison for detailed instructions.
- 4) For coating on a conveyor line, a uniform pipe temperature of between 20°C(70°F) and 55°C(120°F) is required to enable the coating to cure quickly. Otherwise, substrate temperature is unimportant.
- 5) A second coat may be applied over the first, so long as it is applied within the recoat window. Otherwise, it will be necessary to roughen the surface to ensure good intercoat adhesion.

### C. CLEAN-UP AND STORAGE

- 1) This material will react with humidity and moisture. Keep containers tightly sealed and store upside down. For clean-up, use Madison VR-1 or VR-2 Viscosity Reducer™. Other solvents may react with the product.
- 2) Store between 10°C(50°F) and 27°C(80°F). DO NOT FREEZE. Use product within 6 months of receiving.

### HEALTH AND SAFETY

CorroPipe® 2000 is intended for industrial use only. It contains no monomeric isocyanates but may nevertheless cause respiratory distress in some people. Provide ample ventilation. Wear a fresh air respirator when using in confined areas or when spraying. Wear rubber gloves, safety goggles and protective clothing. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician. If splashed on skin, remove immediately with rubbing alcohol and then wash with soap and water. If splashed in eyes, wash liberally with clean water and contact physician; temporary irritation of eyes may last several days. Contains no known or suspected carcinogens or mutagens. See MSDS for more information. The finished product is totally inert and harmless.

### LIMITED TWO YEAR WARRANTY

Madison will replace any product which, in service for which it is suitable, fails to meet specifications within two years of sale and which is proven to be defective when applied according to instructions by a Madison Approved Applicator or Certified OEM Applicator. Madison accepts no responsibility or liability for any other loss, claim, damage, injury or expense, direct or consequential, in contract or negligence. This product replacement warranty is in lieu of any other right, warranty, guarantee or condition, statutory or otherwise, expressed or implied, whether as to fitness for a particular purpose or as to merchantable quality or otherwise. The information contained herein is believed to be accurate as of the date of publication. Madison reserves the right to change product specifications without notice.

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