

EXHIBIT "A" - SEALANT SPECIFICATIONS

SEWPERCOAT®

SUGGESTED TECHNICAL SPECIFICATION FOR STRUCTURAL/STRUCTURALLY ENHANCED LINING INSTALLATIONS IN CORROSIVE MUNICIPAL ENVIRONMENTS

REFERENCE US 04/16 SCOAT

PART 1 – GENERAL

- 1.1. General: This specification defines the method and material for the rehabilitation of sanitary sewer structures (manholes, wet wells, lift/pump stations, large diameter concrete pipe, etc.) utilizing a spray applied calcium aluminate cementitious structural rehabilitation system. The purpose of this project is to obtain a dense and durable concrete lining that is resistant to biosulfuric acid attack and meets the strength requirements described elsewhere in this specification. The work covered in this specification consists of furnishing all labor, equipment, materials, and supervision necessary to accomplish the rehabilitation as specified. When complete the rehabilitated structure shall:
 - 1.1.1. Provide for a uniformly smooth surface of specified thickness.
 - 1.1.2. Minimize, if not eliminate sources of inflow/infiltration (I/I).
 - 1.1.3. Provide a service life that is supported by documented test analysis.
- 1.2. Contractors Sequence of Operation
 - 1.2.1. The Contractor's sequence of operation relative to structural rehabilitation shall include, but not be limited to the following:
 - 1.2.2. Eliminate all sources of groundwater infiltration and voids in walls.
 - 1.2.3. Rehabilitate all interior surfaces including walls, ceilings and floors in accordance with specification and nature of the sub-surfaces.
 - 1.2.4. Provision to "cure" the installed lining material.
 - 1.2.5. Provision to "test" lining and structural rehabilitation materials.
- 1.3. Submittals
 - 1.3.1. The Contractor shall furnish detailed and complete data pertaining to the surfaces of the structure to be rehabilitated, the rehabilitation product, surface preparation and installation to the engineer for approval. The submission of this data shall be made in a timely manner to prevent project delay. At the request of the Engineer, the Contractor shall test for adverse chemical conditions that may hinder overall product performance.
 - 1.3.2. Prior to initiating the work, the Contractor shall submit specific technical data with complete physical properties of the structure to be rehabilitated and the proposed product for the rehabilitation of the structure, as well as a specific plan for sub-surface preparation.
 - 1.3.3. A work plan.
 - 1.3.4. A safety plan. It is the contractor's responsibility to comply with OSHA standards and all regulations pertaining to the work including confined space entry.

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PART 2 – PRODUCTS

2.1 Materials

- 2.1.1 Lining material furnished under this specification shall be a prepackaged mortar mix, including all cement, aggregates, and any required additives. It is the intent of this specification that the Contractor only be required to add the proper amount of potable water so as to produce concrete suitable for spray application. Do not add portland cement, other aggregates, or any unapproved admixtures whatsoever to lining material. Typical package weights shall not be less than 50 lbs and shall be identical for all material furnished on this project.
- 2.1.2 The chemical composition of the cement portion as well as the aggregates of the mortar mix shall be as follows:

Al ₂ O ₃	CaO	FeO + Fe ₂ O ₃	SiO ₂
39-44%	34-38%	9-15%	6-8%

- 2.1.3. The properties of the mortar mix under standard laboratory conditions are typically as follows:

Compressive Strength (ASTM C109)	> 5,500 psi	24 hours
Flexural Strength (ASTM C348)	> 900 psi	24 hours
Splitting Tensile Strength (ASTM C496)	> 550 psi	24 hours
Slant Shear test (ASTM C882)	> 2,500 psi	28 days
Shrinkage at 28 days (ASTM C157)	< 0.07%	
Freeze/Thaw after 300 Cycles (ASTM C666)	> 102	

- 2.1.4. The mortar mix shall be either “SewperCoat PG” or “SewperCoat 2000HS Regular”, both as manufactured by Kerneos Inc. – Chesapeake, Virginia.
- 2.1.5. Mortar mix must have at least fifteen (15) years of successful performance in similar applications and manufacturer shall be ISO 9001:2008 certified for quality management. Manufacturer’s ISO 9001:2008 certificate shall be submitted to engineer and owner.
- 2.1.6. Mortar mix manufacturer shall offer to the Owner a labor and materials replacement limited warranty for a period of no less than 10 years from the date of Owner acceptance of the installation.
- 2.1.7. In addition, the mortar mix shall be designed to withstand long-term exposure to a bacterially corrosive hydrogen sulfide environment that may be expected to produce a pH of 1 on normal Portland cement based concrete or typical brick and mortar surfaces.
- 2.1.8. Water used in mixing shall be fresh, clean, potable water, free from injurious amounts of oil, acid, alkali, vegetable, sewage and/or organic matter. Water shall be considered as weighing 8.32 pounds per gallon.
- 2.1.9. Mortar mix shall be stored with adequate provisions for the prevention of absorption of moisture. It shall be stored in a manner that will permit easy access for inspection and identification of each shipment.

PART 3 – EXECUTION

3.1 Sampling and Testing

- 3.1.1 A recognized independent testing laboratory shall test mortar materials used on the project. The Manufacturer, instead of an independent laboratory, may test project sample specimens, provided the Owner, Engineer, and Manufacturer are in agreement of this testing method prior to project commencement. Specific materials recommended by the Engineer shall then be tested.
- 3.1.2 The cost of sampling and testing of the mortar mix during placement and the surface to which it is applied shall be born by the Contractor. Other testing required showing conformance with these specifications shall

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be the responsibility of the Contractor. Certified test reports and certificates, when so directed, shall be submitted in duplicate to the Engineer and to such other agencies or persons the Engineer may designate.

3.1.3 Any materials failing to meet the requirements of these specifications shall not be incorporated into the work plan.

3.2 Qualification of Work Crew

3.2.1 The lining material Manufacturer shall maintain a listing of competent contractors that have demonstrated requisite skill and training to be qualified applicators of their materials.

3.2.2 Prior to project commencement, the Contractor must satisfy the Engineer that all Contractor's work crew personnel have performed satisfactory work in similar capacities elsewhere for a sufficient period of time to be fully qualified to properly perform the work in accordance with the requirements of the related specifications.

3.2.3 Foreman shall have at least 4 years experience with similar work and project conditions.

3.2.4 Nozzlemen shall be qualified by having had similar work experience.

3.2.5 Work Crew responsibilities prior to application of lining material shall include the following:

- a) Surface preparation as discussed in section 4.1.
- b) Ensure the operating air pressure is uniform and provides adequate nozzle velocity for proper compaction.
- c) Continuously regulate the water content so that the applied materials consistently achieve proper compaction with a low percentage of rebound and no visible "sag".
- d) Ensure that the installation equipment nozzle is held at the proper distance away from and as nearly perpendicular to the prepared sub-surface as the working conditions will permit to secure maximum material compaction with minimum rebound and no visible "sag".
- e) Follow a sequence routine that will fill corners with adequately compacted material applied at a maximum practicable layer thickness.
- f) Determine necessary operating procedures for placement in confined spaces, extended distances or around unusual obstructions where placement velocities and mix consistency may need to be adjusted.
- g) Direct the crew as to when to start and stop the flow of materials during installation and to immediately stop all work when material is not arriving uniformly at the nozzle.
- h) Ensure that slough pockets are removed and prepared for installation of replacement material.
- i) Bring the installed materials to established finished elevations in a neat and timely manner and within established tolerances.

3.2.6 Applicator's job foreman shall operate the mixing/placing equipment and direct the work of mixing crew personnel. Applicator's work crew shall also maintain proper line pressures throughout the mixing/placing equipment to ensure the necessary consistent nozzle velocity. Applicator's work crew shall further see that all material fed to the nozzle is uniformly fed through this equipment.

3.3 EQUIPMENT

3.3.1 Equipment shall be of spray type and approved by the material manufacturer. Alternate equipment may be utilized provided it meets the performance requirements of the specification. All equipment must be kept in operating condition and good repair.

PART 4 - CONSTRUCTION METHODS

4.1 SURFACE PREPARATION

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- 4.1.1 Ensure all sub-surfaces are clean and free of laitance, loose material, residue and all existing coating and lining materials. See Section 4.4 for Inflow and Infiltration Prevention. For detailed explanation of the required surface preparation see ACI RAP-3 “Spall Repair by Low Pressure Spraying” page 2. ACI 546R “Concrete Repair Guide”, chapter 2 also provides a good reference for important considerations for repairing concrete surfaces using mortar.
- 4.1.2 Sub-surfaces shall be thoroughly saturated with water prior to the application of the lining materials. In no instance shall shotcrete be applied in an area where running water exists. It is the intent of this specification that the existing surface be saturated and free of any running water just prior to installation – or SSD, “saturated surface dry condition.” To achieve this condition it may be necessary to presoak the sub-surface for a at least 24 hours.

4.2 OPERATIONS

- 4.2.1 The Contractor shall provide all equipment necessary to individually gauge, control, and monitor the actual amounts of all component materials necessary to complete the lining installation. The type of equipment and methods used to gauge, control, and monitor component materials shall be subject to approval by the Engineer and Manufacturer.
- 4.2.2 All lining materials shall be thoroughly mixed by mechanical means to ensure all agglomerated particles are reduced to original size or removed prior to placement into the application equipment (i.e. the hopper). Each batch of material should be entirely discharged before recharging with fresh material. Mixing equipment shall be cleaned at regular intervals to remove all adherent materials.
- 4.2.3 The addition of water to the mix shall be in strict accordance with the Manufacturer’s recommendations.
- 4.2.4 Re-mixing or tempering shall not be permitted. Rebound materials shall not be reused.

4.3 PROTECTION OF ADJACENT SURFACES

- 4.3.1 During progress of the work, adjacent areas or grounds which may be permanently discolored, stained or otherwise damaged by dust and rebound material, shall be adequately protected and, if contacted, shall be cleaned by early scraping, brushing or washing as the surroundings permit.

4.4 INFLOW and INFILTRATION PREVENTION

- 4.4.1 If inflow or infiltration is observed within the structure after surface preparation is complete, a rapid setting crystalline enhanced hydraulic cement product specifically formulated for infiltration control shall be used to stop minor infiltration flows in accordance with the manufacturer’s recommendations. The material shall meet the following strength requirements:

Compressive Strength (ASTM C597B)	600 psi	(24 hours)
	1,000 psi	(7 days)
Bond Strength (ASTM C321)	30 psi	(1 hour)
	80 psi	(1 day)

- 4.4.2. The material shall be Preco Plug, Octocrete, Burke Plug or Engineer approved equal. Where infiltration flows are more severe, pressure grouting may be required. The material for pressure grouting shall be Avanti A-220, DeNeef or Engineer approved equal installed in accordance with the manufacturer’s written instructions.
- 4.4.3. All materials, labor, equipment, and incidentals required to correct inflow and infiltration conditions will be considered incidental to rehabilitation.

4.5. APPLICATION OF MATERIALS

- 4.5.1 Lining material shall not be applied to a frozen surface or to a surface that may freeze within 24 hours of

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application. Frozen conditions shall be defined as ambient temperatures of 32 degrees Fahrenheit or below.

- 4.5.2. Sequence of application may be from bottom to top or vice versa if rebound is properly removed.
- 4.5.3. Application shall be from an angle as nearly perpendicular to the surface as practicable, with the nozzle held at least 1 foot from the working sub-surface (except in confined control). If the flow of material at the nozzle is not uniform and slugs, sand spots, or wet sloughs result, the nozzleman shall direct the nozzle away from the work until the faulty conditions are corrected. Such defects shall be replaced as the work progresses.
- 4.5.4. Application shall be suspended if:
 - 1) Air velocity separates the cement from the aggregate at the nozzle.
 - 2) Ambient temperature approaches freezing and the newly placed SewperCoat cannot be protected and insulated.
- 4.5.5. The time interval between successive layers of material application must be sufficient to allow "tackiness" to develop but not final set. If final set does occur, this surface shall be prepared in accordance with Sections 4.1.1 of this document.
- 4.5.6. Construction joints within a manhole shall be avoided. In the event a construction joint is necessary and approved by the Engineer, it shall be sloped off to a thin, clean, regular edge, at a 45-degree angle. Prior to placement of the adjoining materials, the sloped portion and adjacent applied material shall be thoroughly cleaned as necessary, then moistened and scoured with an air jet.
- 4.5.7. Nozzleman shall bring the material to an even plane and to well-formed corners.
- 4.5.8. After the body coat has been placed, the surface shall be trued with a thin-edge screed to remove high areas and expose low areas. Low areas shall be properly filled with additional material to insure a true, flat surface in accordance with Section 4.5.5 of this document.
- 4.5.9. For manhole applications, the recommended thickness of SewperCoat shall be a ½-inch cover over all surfaces, unless substrate conditions and other factors require additional thickness. For other larger structures (lift stations, wet wells, treatment plant structures, etc.), the recommended thickness of SewperCoat shall be a 1-inch cover over all surfaces, unless substrate conditions and other factors require additional thickness.

4.6. CURING

If the material has been applied and furnished in accordance to the specifications, and it has been determined that the environment is not moist enough for natural curing, the contractor will be required to apply a curing compound to all coated surfaces. Curing compound shall meet the requirements of ASTM C309 and have the approval of the lining material Manufacturer and the Engineer prior to use.

Moist curing may also be used in lieu of curing compound. If moist curing is selected, it should be implemented just after the notice of uniform heat generation of the installed lining. Moist curing can consist of the use of soaker hoses, water sprinklers, or vapor/misting machines. Regardless of delivery method, moist curing should continue for a minimum of 18 hours.

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Industrial Maintenance Group, Inc.



Providing Industry's Solutions

Polyurea Industrial Coating System

Polyurea protective coatings can be used for the following applications:

- Abrasion Resistance
- Corrosion Protection
- Waterproofing
- Chemical, Environment or Atmospheric Resistance
- Decoration
- Structural Enhancement



For decades, traditional materials such as paint, epoxy, fiberglass and vinyl esters have all been used to perform these various types of protective coating applications.

Polyurea is a stronger and more advanced option than these traditional coating systems and offers many advantages to the owner, specifier and contractor.

These advantages come mainly in the form of achievable physical properties with its fast setting characteristics (approx. 30 to 90 seconds); fast return to service is achievable. It can also be applied over a variety of different substrates (concrete, metals, wood and more) in a wide range of temperature and environments with proper surface preparation and proper quality control testing during application a strong durable coating system is achievable.

Polyurea has some major benefits when considering its fast set nature. It can typically return an area to service sometime days faster than traditional coatings, allowing the owner to put a facility back in use without days and weeks of revenue losing down-time. Down time for maintenance and coatings on storage/ water tanks, piping, waste-water clarifiers, parking garages and chemical storage tanks are costly to the facility owner.

Most industrial use Polyurea applications are two part plural component spray applied, making application time faster and accurately proportioned. This application style allows for virtually any mil thickness to be applied in one or multiple passes. Additional characteristics such as slip resistant additives and surface textures can also be incorporated; our coatings are UV stable, NSF potable water approved.

Almost no coating can compare to Polyurea when it comes to attainable physical properties. Polyurea can be formulated to achieve a tremendous range of properties from high elongation (450%) to superior tensile strength (3500 psi).

Contact Industrial Maintenance Group, Inc. today to solve your protective coating needs.

Office 813-659-3512 Direct Product Representative: 813-758-7931

607 Alexander Street, Suite 109, Plant City, Florida 33563

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Industrial Maintenance Group, Inc.

Custom Linings® 911
Polyurea Protective Coating

DESCRIPTION

Custom Linings® 911 is a fast setting, rapid curing, 100% solids, flexible, aromatic, two component spray polyurea that can be applied to suitably prepared concrete and metal surfaces. Its extremely fast gel time makes it suitable for applications down to -20°F. It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to moisture and temperature allowing application in most temperatures. Custom Linings® 911 offers a tack free time of less than sixty seconds and exhibits 450% elongation upon curing with 50 Shore D hardness.

FEATURES

- ❖ Zero VOC (100% Solids)
- ❖ Seamless
- ❖ Excellent Thermal Stability
- ❖ Odorless
- ❖ Low Temperature Flexibility
- ❖ Meets USDA Criteria
- ❖ Good Chemical Resistance
- ❖ Coats Carbon or Mild Steel Metals without Primer
- ❖ Installed With or Without Reinforcement in Transitional Areas

TYPICAL USES

- ❖ Airports
- ❖ Refineries
- ❖ Fertilizer Plants
- ❖ Mining Operations
- ❖ Food Processing Plants
- ❖ Marine Environments
- ❖ Secondary Containment
- ❖ Walkways and Balconies
- ❖ Water and Waste Water Treatment
- ❖ Industrial and Manufacturing Facilities
- ❖ Power Plants
- ❖ Structural Steel
- ❖ Warehouse Floors
- ❖ Cold Storage Facilities
- ❖ Landfill Containment
- ❖ Paper and Pulp Mills
- ❖ Parking Garage Decks

COLORS

Clear/Neutral. Custom colors are available upon request. Color Packs, when used, must be added to Part-B. Due to its aromatic composition, Custom Linings® 911 will tend to yellow or darken in color and will become flat after exposure to UV light. Custom Linings® 911 may be topcoated within twelve hours of application with an aliphatic polyurethane/polyurea coating for a colorfast finish.

PACKAGING

10 gallon kit: 5 gallons Part-A (Isocyanate side) and 5 gallons Part-B (Resin side).
100 gallon kit: 50 gallons Part-A (Isocyanate side) and 50 gallons Part-B (Resin side).

COVERAGE

Custom Linings® 911 may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 sq. ft.

TECHNICAL DATA

Mix Ratio by Volume	1A : 1B
Pot Life @ 150°F	4 - 8 secs
Tack Free Time (thickness & substrate temperature dependent) ...	45 - 60 secs
Recoat Time	0 - 6 hours
Viscosity at 150-160°F (66.5-71°C), Brookfield:	
Part-A	50 ± 20 cps
Part-B	50 ± 20 cps
Density (Side A & B Combined)	8.81 lbs/gal
Flash Point	> 200°F
Hardness, ASTM D-2240	50 ± 5 D
Tensile, ASTM D-412*	3500 ± 200 psi
Elongation, ASTM D-412*	450% ± 50%
Tear, ASTM D-412*	450 ± 50 pli
Service Temperature	-40°F to 250°F
Water Vapor Permeability, ASTM E-96	0.361 perm-inch
VOC Content	0 gm/lit
Recommended Applied Thickness	> 2 mm/60 mils
Return to Service: Foot Traffic	1 - 4 hours
Return to Service: Full Service	> 24 hours
Taber Abrasion Resistance, ASTM D4060	
(CS17 wheel, 1000 cycles, 1 kg load) (maximum)	6 mg loss
Water Absorption, ASTM D471	
(maximum 23°C, 24 hours)	< 0.5%
Crack Bridging, ASTM C836	
(-25°C, 1.6mm crack, 25 cycles)	Pass
Impact Resistance @ 25°C (ASTM G14)	> 200 lbs
Pull-Off Strength (minimum), ASTM D4541:	
Inter-Coat Adhesion (within recoat time)	Excellent
Concrete (Shot blasted profile), substrate failure occurred ...	> 500 psi
Concrete (Primed), substrate failure occurred	> 500 psi
Steel (90 um blast profile)	> 900 psi
Lineal Shrinkage	1 - 2%
Flexibility (1/8" 3mm Mendrel Bend Test), ASTM D1737 ...	Pass
Resistance to Weathering, ASTM G-23	
(Type QUV Weatherometer-3000 hrs exposure)	No cracking or blistering. Color change, gloss reduction & chalking are noted.

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. Custom Linings recognizes the potential for unique substrates from one project to another. The following information is for general reference. For project-specific questions, contact our sales representative, Pete Van Fossen with Industrial Maintenance Group, Inc. at 813-478-4224 or via email at Pete@IndustrialMaintenanceGroup.Com.

New and Old Concrete:

Refer to SSPC-SP13/NACE 6, or ICRI 03732: CSP 3-5. New concrete must be cured for 28 days prior to product application. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations. Rinse thoroughly, to achieve a pH between 8.0 and 11.0. Allow to dry completely. If old concrete has a surface that has deteriorated to an unacceptably rough surface, Custom Linings-260 or a mixture of Primer 21 and sand should be used as a repair agent for cracks, spalls, bug holes and voids. Upon full cure of the repair agent, prime the entire surface intended for coating.

Concrete Surface Preparation Reference:

ASTM D4258 - Standard practice for cleaning concrete
 ASTM D4259 - Standard practice for abrading concrete
 ASTM D4260 - Standard practice for etching concrete
 ASTM F1869 - Standard test method for measuring moisture vapor emission rate of concrete
 ICRI 03732 - Concrete surface preparation

Wood:

All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be repaired using CL-260 with sand. Upon full cure of the repair agent, prime the entire surface intended for coating.

Steel (Atmospheric and Immersion Exposure):

Remove all oil, grease, weld spatters and round off any sharp edges from surface. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Optimum surface profile is 2-3 mils.

Prime and shoot 911 on to any bare metal the same day as it is cleaned

to minimize any potential flash rusting.

Aluminum:

Aluminum should be blasted with aluminum oxide or sand, and not with steel or metal grit. Excessive blasting may result in a warped or deformed surface. After blasting, wash aluminum with a commercially available aluminum cleaner. Allow to dry, then prime.

Brass and Copper:

Brass and copper should be blasted with sand, and not with steel or metal grit. Remove all dust and grease prior to applying primer.

Galvanized Surfaces:

Clean and degrease any contaminated surfaces before priming. Do not blast galvanized surfaces with an abrasive grit. An adhesion test is recommended prior to starting the project.

Fiberglass Reinforced Plastic:

The gel coat should be lightly blasted or sanded with 80 grit sandpaper and cleaned.

Plastic Foams:

Enhanced adhesion is obtained when the foam is mechanically abraded. When coating polystyrene, do not use a solvent-based primer.

Textiles, Canvas, Fabrics:

Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

Stainless Steel:

Stainless steel may be grit blasted and degreased before priming. Some stainless steel alloys are so inert that it is not possible to achieve a satisfactory bond. An adhesion test is recommended prior to starting the project.

New and Old Cast Iron:

Blast with a steel grit and degrease before priming. Old cast iron is difficult to prepare for a satisfactory bond. It can absorb oil and water soluble contaminants that will keep returning to the surface after the coating system has been applied and affect the coating system adhesion. An adhesion test is recommended prior to starting the project.

All Other Surfaces:

An adhesion test is recommended prior to starting the project.

MIXING

Custom Linings® 911 may not be diluted under any circumstances. Thoroughly mix Custom Linings® 911 Part-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

APPLICATION

Both Side-A and Side-B materials should be preconditioned to 75-80°F before application.

Recommended surface temperature must be at least 5°F above the dew point.

Custom Linings® 911 should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment like Graco's Reactor, Glass Craft or other equivalent machine may be used. Both Part-A and Part-B materials should be sprayed at a minimum of 2000 psi and at temperatures above 150°F. Adequate pressure and temperature should be maintained at all times.

Custom Linings® 911 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

STORAGE

Custom Linings® 911 has a shelf life of one (1) year from date of manufacture, in factory-sealed containers.

Part-A and Part-B drums are recommended to be stored above 60°F. Avoid freezing temperatures.

Store drums on wooden pallets to avoid direct contact with the ground.

If stored for a long period of time, rotate Part-A and Part-B drums regularly.

LIMITATIONS

Do not open until ready to use.

Both Part-A and Part-B containers must be fitted with a desiccant device during use.

WARNING

This product contains Isocyanates and Curative Material.

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local Custom Linings representative or visit our website for current technical data and instructions.

LIMITED WARRANTY

Custom Linings warrants its products to be free of manufacturing defects and that they will meet Custom Linings current published physical properties. Custom Linings warrants that its products, when properly installed by a state licensed waterproofing contractor according to Custom Linings guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by Custom Linings of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Custom Linings shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Custom Linings shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Custom Linings reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee

that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Custom Linings makes no claim that these tests or any other tests, accurately represent all environments.

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INDUSTRIAL MAINTENANCE GROUP, INC.

CHEMICAL RESISTANCE CHART FOR CUSTOM LININGS® 911

The following chemical resistance data were obtained from a 70-75 mils film of CUSTOM LININGS 911 immersed in each chemical listed below at 70-75 degrees F for a period of 7 days. Like other industrial maintenance coatings, CUSTOM LININGS 911 has chemical and temperature limitations. Please read the disclaimer below. For chemicals other than those listed below, proper testing must be completed prior to application of the coating system. It is advisable to consult your local INDUSTRIAL MAINTENANCE GROUP, INC. representative.

CHEMICAL SOLVENTS

Xylene	4
Toluene	4
Acetone	2
2 Methyl Butane	1
MTBE	2
HEXANE	2

ACIDS and BASES

Sewage	1
Hydrogen Sulphide gas (H ₂ S gas)	1
Hydrochloric Acid 35%	4
Hydrochloric Acid 10%	1
Hydrochloric Acid 5%	1
Propylene Carbonate	3
Acetic Acid, 10%	1
Phosphoric Acid, 10%	1
Ammonium Hydroxide 10%	1
Ammonium Hydroxide 20%	1
Sodium Hydroxide 50%	2
Salt Water (10%)	1
Drinking Water	1
De-Ionized Water	1

CHEMICAL SOLVENTS

Motor Oil	2
Gasoline (unleaded)	1
Diesel	1
Brake Fluid	2
Hydraulic Oil	1
Methanol	4
JP4	1
JP8	1

Sulphuric Acid 60%	4
Sulphuric Acid 30%	3
Sulphuric Acid 10%	1
Sulphuric Acid 5%	1
Potassium Hydroxide 10%	1
Potassium Hydroxide 20%	5
Sodium Hydroxide 10%	1
Sodium Hydroxide 20%	5
10% Sugar/Water	1

CHART KEYS:

- 1: no visible damage
- 2: little visible damage
- 3: some effect swelling, discoloration, cracking
- 4: not recommended
- 5: satisfactory for splash, spillage and secondary containment (72-96 hours)

DISCLAIMER: For heavy acid contact we recommend 911-CR. All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. This information relates to the specific material designated and may not be valid for such material used in combination with any other material or in any process. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use and user assumes all risk and liability resulting from his use of the product. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer.

Test performance results were obtained in a controlled environment and CUSTOM LININGS/INDUSTRIAL MAINTENANCE GROUP, INC. makes no claim that these tests or any other tests, accurately represent all environments. Application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.

PUBLISHED TECHNICAL DATA AND INSTRUCTIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT YOUR LOCAL INDUSTRIAL MAINTENANCE GROUP, INC. REPRESENTATIVE FOR CURRENT TECHNICAL DATA AND INSTRUCTIONS.

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