CORCHEM®

TECHNICAL BULLETIN

CORCHEM® 139 HEAT RESISTANT SILICONE ALUMINUM

GENERIC Unmodified, phenyl methyl silicone copolymer combined with bright leafing aluminum weather resistant pigmentation. The polymer structure is extremely heat resistant.

DESCRIPTION High temperature silicone aluminum coating modeled after Federal Specification TT-P-28 designed to provide a shiny metallic protective finish for substrates and surfaces that will be exposed to atmospheric environments at elevated temperatures. It is formulated to have exceptional ease of application with outstanding adhesion, flexibility, sunlight, and weather resistance properties. The cured film (free of solvents) conforms to United States Department of Agriculture requirements for incidental food contact.

USE Protective coating for steel mufflers and exhaust manifolds, furnaces, kilns, boiler stacks and shells, hot transfer lines and steam generating equipment. Self-priming to most substrates or it can be used in combination with primers such as CORCHEM® 97 and other CORCHEM® products. The principal use is for corrosion problem areas such as the exterior of hot steel structures and surfaces in petrochemical, power generating and waste treatment facilities. Suggested as an all-purpose, superior quality high heat, industrial maintenance finish.

SERVICE LIMITATIONS Temperature resistance up to 1,200°F (dry) depending upon the individual exposure. Not recommended for immersion service and exposure to corrosive chemicals or under insulation.

COLORS Silver Aluminum

FINISH Low Gloss

VOLUME SOLIDS 36%

DRY COVERAGE Theoretical (no loss): 576 sq. ft. per gallon for one mil (.001). When computing coverage allow for application loss and surface irregularities.

DRY FILM THICKNESS Normal / standard dry film thickness up to 1.5 mils per coat. Two or more coats to a total dry film thickness of 2.0 to 3.0 mils. Multiple applications are recommended and may be necessary to achieve the specified or desired film thickness or due to variations in design configurations, application equipment, temperature and other factors.

COMPONENTS One.

POT LIFE Not Applicable.

VOC CONTENT 553 gms/l or 4.62 lbs/gal. Conforms to 40 CFR §59.402 VOC content limits.

THINNER CORCHEM® 5. Thin only as required for proper application. Do not exceed applicable volatile organic compound (VOC) regulations. Thinner added:

05% - 563 gms/lit or 4.70 lbs/gal	10% - 576 gms/lit or 4.81 lbs/gal
15% - 588 gms/lit or 4.91 lbs/gal	20% - 600 gms/lit or 5.01 lbs/gal

APPLICATION METHODS Air or airless spray and brush (small areas).

TEMPERATURES Apply at 35°F to 125°F (Air and Surfaces) and 5°F above the dew point. Sudden temperature change during curing process or in-service conditions can cause film defects.

CURING TIME Recoat 4-48 hours @ 70°F. Full film properties are not obtained until heat cured. Complete curing is achieved after 1 hour at 400°F or by in-service operation. Curing time is significantly shorter for higher temperatures and longer for lower temperatures. Curing times are affected by the method of application; the quantity of thinner used; the amount of ventilation and air circulation; relative humidity; etc.

NOTICE! Allow final dry time of at least 1 day before placing in operating service. If applied over CORCHEM® 97 ZINC RICH PRIMER allow final dry time of at least 3 days before placing in operating service. The temperature should be raised gradually to prevent blistering and defects. Contact CORCHEM® for complete instructions and various heat-cure-time schedules.

PACKAGING 1-gallon cans

SHELF LIFE 1 year from shipment date protected between 40°F and 100°F.

HAZMAT DATA Hazard Class 3 – Flammable Liquids This material ships in any quantity via common carrier only. *Refer to Safety Data Sheet for complete Hazmat and Safety information.*

SURFACE PREPARATION Surface should be cleaned prior to abrasive blasting as prescribed in SSPC-SP 1 or other specified methods (i.e., NACE PUB.6G186/SSPC-Guide 15).

Round off sharp edges and rough welds. Burrs and weld spatter should be completely removed. Surfaces must be clean, dry and free of any visible dirt, chalk, grease, oils, salts, and deleterious materials before application is performed. Vacuum the topside of all horizontal and sloped surfaces. Fill pitted steel by troweling CORCHEM® 263 FILLER SURFACER over pits leaving them flush with surface. Repair perforations in steel by patching or plugging with ≥3/16 inch steel using full fillet welds on large perforations and CORCHEM® 263 FILLER SURFACER as bonding adhesive on small perforations. Grind top edges of patches to a round contour.

CARBON STEEL Atmospheric Exposures: SSPC-SP 10/NACE No. 2 (Near-White Blast Cleaning). Metal surfaces should have an anchor profile of .75 to 1.25 mils.

WELDING Welding should precede coating. If already coated, follow instructions in U.S.A. Standard Z49.1 Safety in Welding and Cutting.

APPLICATION MIXING All equipment should be cleaned and flushed with CORCHEM® 5 THINNER. Power-stir, until completely mixed and continue agitation during application. Strain only if required for proper application. Do not allow material to stand in equipment after use! Clean immediately with CORCHEM® 5 THINNER or Xylene.

APPLY In an even wet coat. Ensure seams and irregularities are completely covered. Application below minimum or above maximum suggested dry film thickness ranges might adversely affect performance. Use of a thin or "mist" coat prior to regular application may be needed to reduce pinholing and/or blistering over a rough/porous type primer or substrate.

RECOAT AND REPAIR Clean surface. The use of T.S.P. (trisodium phosphate**)** cleaner may be desired. Spot repair any damaged coating or substrate and feather the edges.

INSPECTION Check for desired dry film thickness and for pinholes, holidays, bare areas, etc. before placing in operating service.

Verify desired dry film thickness; refer to ASTM D7091-13 / SSPC-PA 2 "Procedure for Determining Conformance to Dry Coating Thickness Requirements".

Inspect for discontinuities, pinholes, holidays, bare areas, etc. before placing in operating service. Refer to NACE SP0188 "Low-Voltage Wet Sponge Testing".

AIRLESS SPRAY Graco or equal. Pump ratio 30:1 or higher, 206-718 gun with fluid tip of .017" or larger orifice size with Reverse-A-Clean tip, 3/8" I.D. or larger high-pressure solvent resistant fluid line, 1/2" I.D. or larger air supply line. Continuous air source capable of 80 to 100 psi inbound pressure at pump.

CONVENTIONAL SPRAY Binks or equal. Pressure material pot with mechanical agitator, dual regulators, air-gages, and oil and moisture separators. No. 2001 gun (external mix), 68 fluid nozzle, 568 fluid needle, 68 PB air cap, heavy-duty fluid spring, Teflon fluid packing, 1/2" I.D. or larger high solvent resistant fluid line and 3/8" I.D. or larger air-supply line. Continuous

air source capable of 20 cfm or more at 80 psi per nozzle and 60 psi to the pot.

GENERAL Regulate pressure as required for proper application. Proportionally adjust pressure higher for smaller hose diameter and/or longer hose length and adjust pressure lower for larger hose diameter and/or shorter hose length. Select tip angles and orifice diameters according to application needs.

BRUSH Short hair or natural bristle.

ROLLER 1/4 to 3/8 inch nap synthetic cover.

CLOTHING **Refer to the Safety Data Sheet (SDS) for complete safety information.** Wear protective garments, shoes, goggles, and filter masks. Use protective barrier creams on exposed skin areas.

CONFINED SPACES **Refer to the Safety Data Sheet (SDS) for complete safety information.** If thinner is added to this product use explosion-proof lighting and electrical equipment, non-sparking tools, clothes and shoes. Ground all structures and equipment. Use procedures that prevent static electrical sparks. Wear properly fitted appropriate NIOSH/MSHA approved fresh air respirator such as MSA or equal with 1/4" I.D. or larger air supply line connected directly to proper air source during and after application unless air monitoring demonstrates vapor/mist levels are within safe limits. Use suction type exhaust fans and blowers with sufficient cfm capacity to keep solvent vapors below 20% of the explosive limit. CAUTION! Air circulation and exhausting of solvent vapors must be continued until the coatings have fully cured to insure that no potential for fire, explosion or health hazard remains.

SAFETY INFORMATION

THIS PRODUCT CONTAINS PETROLEUM DISTILLATES, SILICONE RESINS AND METALLIC ALUMINUM PIGMENTS. DO NOT USE IF YOU HAVE HAD A REACTION TO THESE MATERIALS.

WARNING! FLAMMABLE! VAPOR HARMFUL! CAUSES SEVERE EYE AND SKIN BURNS. MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES. HARMFUL OR FATAL IF SWALLOWED!

Keep away from heat, sparks, and open flame. Use only with adequate ventilation. Prevent breathing of vapor or spray mists. Wear a properly fitted appropriate respirator during application and until all vapors and spray mists are gone. Prevent contact with eyes and skin. Do not take internally. Keep closures tight and upright to prevent leakage. Keep container closed when not in use. In case of spillage, absorb and dispose of in accordance with local applicable regulations. **FIRST AID:** In case of skin contact, wash thoroughly with soap and water; for eyes, flush immediately with plenty of water for 15 minutes and call a physician. Remove and wash contaminated clothing before reuse. (Discard contaminated shoes). If inhaled, remove to fresh air. If breathing difficulty persists or occurs later, consult a physician and have label and MSDS information available. If swallowed, **CALL A PHYSICIAN IMMEDIATELY. DO NOT** INDUCE VOMITING.

IN CONFINED SPACES AND TANKS OBEY SPECIAL SAFETY AND EQUIPMENT INSTRUCTIONS!

FOR INDUSTRIAL USE BY PROFESSIONAL APPLICATORS ONLY. NOT INTENDED FOR SALE TO THE GENERAL PUBLIC. This product should not be sold or delivered to any person under 18 years of age. **KEEP OUT OF THE REACH OF CHILDREN! IF, FOR ANY REASON, ADDITIONAL PRODUCT AND SAFETY INFORMATION, INSTRUCTIONS OR EXPLANATIONS ARE NEEDED, CONTACT CORCHEM® IMMEDIATELY!**

LIMITED WARRANTY

WARRANTY & LIMITATION OF SELLER'S LIABILITY: CORCHEM® CORPORATION warrants only that its coatings represented herein meet the formulation standards of CORCHEM® CORPORATION.

THE ABOVE WARRANTY SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTIONS ON THE FACE HEREOF.

The buyer's sole and exclusive remedy against CORCHEM® CORPORATION shall be for replacement of the product in the event, a defective condition of the product should be found to exist. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. The sole purpose of this exclusive remedy shall be to provide buyer with replacement of the product if any defect in materials is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as CORCHEM® CORPORATION is willing and able to replace the defective materials.

Technical and application information is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and CORCHEM® CORPORATION makes no claim these tests or any other tests, accurately represent all environments. As 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 CORCHEM® REPRESENTATIVE FOR CURRENT TECHNICAL DATA AND INSTRUCTIONS.

C139 HEAT RESISTANT SILICONE ALUMINUM

Document ID: C139-1-TB-06052017-1148
Revision: 1

MADE IN TEXAS, USA