

Si-COAT® 580™ AC

Low VOC Anti-Corrosion Protective Coating

Technical Data Sheet

KEY FEATURES:

- **Easy One-Coat Application:** Self-priming single coat with minimal surface preparation (no abrasive blasting or profiling required) therefore - less time and labour costs
- **Advanced Performance:** Long-lasting protection from corrosion (stops rust creep)
- **Cost Effective:** Apply less product (8-12 mils DFT) for superior protection
- **UV Performance:** All colors are tested to withstand 5,000 hours of Accelerated Weathering (QUV); Color change <1 delta E CIE * Lab
- **Flexibility:** High elasticity allows for flexibility of coating and allows for thermal expansion and contraction of surfaces
- **Environmentally Responsible:** Low Volatile Organic Compound (VOC) content; Si-COAT 580 AC is VOC compliant

Easy to spray, low VOC (Volatile Organic Compound) Si-COAT 580 AC is a single component, moisture cure, room temperature vulcanizing (RTV) silicone coating that provides long-lasting protection from corrosion in retrofit projects. Typical applications include structural steel, bridges, machinery and equipment, areas with heavy corrosion, tank exteriors, metal roofs, cladding, etc. Si-COAT 580 AC is ideal where coverage is essential and high levels of protection, adhesion, elasticity and longevity are desired.

PRODUCT CHARACTERISTICS AND PRACTICAL INFORMATION

Gloss Level	Semi-Gloss
Volume Solids	92%
Typical Thickness Application Rate	8.0 to 20.0 mil (203 to 508 micron) dry film thickness (DFT).
	9.0 to 22.0 mil (220 to 558 microns) wet film thickness (WFT).

Allow appropriate loss factor:

Practical Coverage = Theoretical Coverage x [100% - Loss%].

Method of Application: Airless spray, brush or roller

Application Temperature Range: 41 to 140°F (5 to 60°C) [ambient]

Drying Time:

Skin-over Time	50-60 minutes*
Cure Through	4 to 6 hours*
Full Physical Characteristics	7 days*

*At standard conditions [77°F (25°C) and 50% relative humidity - 10 mils wet film thickness]

REGULATORY DATA

Flash Point	190°F (88°C) minimum
VOC	0.58 lb/US gallon (70 g/liter) maximum

PHYSICAL PROPERTIES

(Typical properties - values not to be used as specifications)

Uncured	
Viscosity	2,000 ± 1000 cP

Cured At Standard Conditions* for 7 Days	
Hardness (ASTM D2240, Shore A)	54 points
Tensile Strength (ASTM D412)	460 psi (33 kg/cm ²)
Temperature Stability	Continuous: -76 to 392°F (-60 to 200°C)
Adhesion (ASTM D4541)	Cohesive
Direct Impact Resistance (ASTM D2794)	Pass
Flexibility (ASTM D522, 180° bend, 1/8" mandrel)	Pass
Salt Fog Resistance** (ASTM B117, 5000 hours)	Pass
Corrosion Weathering** (ISO 20340)	Pass
Dry Heat Resistance**	200°C/392°F
Recoat Window	Unlimited
Accelerated Weather Testing (QUV)	5000 hours

*At standard conditions 77°F (25°C) and 50% relative humidity

**With zinc rich primer

COLORS

Si-COAT 580 AC is available in a wide range of colors. Please refer to Si-COAT Anti-Corrosion color chart or contact CSL Silicones for color assistance.

SURFACE PREPARATION & CLEANLINESS

All surfaces to be coated should be free of dirt, dust, chalking paint, mortar spatter, all loose rust, all loose mill scale, old caulking, grease, oil, release agents, curing compounds, laitance and other foreign matter including frost. Any paint that is peeling, flaking, cracking, blistering or lifting must be removed. Old coating that does not meet ASTM standard D3359 ("Measuring Adhesion by Tape Method") with a minimum rating of 4A or 4B must be removed. If poor adhesion has caused any edges of the old coating to lift or separate from the substrate (steel or deeper layers of old coating), these edges must be feathered down to remove the lifted portion.

In order to achieve the above conditions, the suggested surface preparation standards are SSPC-SP2 (hand tool cleaning), SSPC-SP3 (power tool cleaning) or SSPC-SP12/NE No. 5 (water jetting/blasting).

For surfaces prepared by water jetting/blasting, the SSPC-VIS 4/NACE VIS 7 standards for surface cleanliness should be followed. When following this standard, the guidance described in the text must be followed first and foremost, as it provides an objective guide. The guidance described in the photographs is highly subjective and may not accurately reflect conditions in the field.

Directly after water jetting/blasting, the surface cleanliness must conform, at minimum, to the WJ-4 condition that corresponds to the initial surface condition prior to water jetting/blasting. If further clarification is required, please refer to SSPC/NACE document number 21157-SG "NACE WJ-4/SSPC-SP WJ-4 Waterjet Cleaning of Metals—Light Cleaning (WJ-4)". This document takes precedence above all else.



Surface cleanliness must also conform, at minimum, to the SC-2 condition with a provision for up to 7 ppm (10 µg/cm²) chloride contamination. Soluble ferrous ion levels should be below 7 ppm (10 µg/cm²) and sulfate contamination less than 12 ppm (17 µg/cm²). Flash rusting may occur after water jetting/blasting. As per the SSPC-VIS 4/NACE VIS 7 standard, the maximum flash rusting condition tolerable is L (light flash rusting that is evenly distributed or in patches, very tightly adherent and not heavy enough to mark objects rubbed/brushed against it).

Hence, the overall surface condition after water jetting/ blasting is WJ-4 L/SC-2 (with a provision for up to 7 ppm (10 µg/cm²) chloride contamination).

COATING APPLICATION

Mixing: Si-COAT® 580™ AC is supplied as a one-part coating (no component mixing necessary). **Mix by an air powered agitator (300 – 400 rpm) for a minimum of 5 minutes**, to ensure an even consistency of coating is obtained without air in suspension.

Application: All surfaces should be clean and dry prior to application. The coating should be applied in a manner that prevents runs, sags, drips, spills, etc. and that completely covers surfaces without holidays (gaps). The temperature of the surface to be coated should be between 41 and 140°F (5 and 60°C) and environmental & substrate temperature should be at least 5°F (3°C) above the dew point prior to and during application.

All areas particularly prone to corrosion such as bare metal, edges, welds, holes, bolts, corners, pits and rough areas should be spot- primed with 5 mils (127 microns) DFT of Si-COAT 580 AC.

The entire structure should be top coated with a minimum 8.0 mil (203 micron) to 20.0 mil (508 micron) DFT of Si-COAT 580 AC, depending on surface conditions. The maximum advisable DFT of Si-COAT 580 AC is 100 mil (2,540 micron).

When working with Si-COAT 580 AC in high humidity and/or high temperature environments, it is recommended to use a pail lid adapter fitted with an agitator. This will prevent the product from skinning over and curing in the pail during application.

It is recommended that Si-COAT 580 AC can be applied using an Airless Sprayer, brush, or roller.

Thinner: Not recommended.

Cleaner: Naphtha or odorless mineral spirits.

Work Stoppages & Restarts: Work stoppages are not recommended with only partial utilization of a container of Si-COAT 580 AC. If work must stop after only a portion of a container of Si-COAT 580 AC is used, seal to minimize air and moisture contact with the coating by covering the surface of the coating with a sheet of polyethylene film, then reseal the container to be airtight.

Upon reopening the container to restart work, peel back the polyethylene film. If curing of the coating has occurred, use a utility knife to cut the cured coating away from the wall of the container. Peel away the cured layer of coating to expose fresh coating underneath.

Clean-up: Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with cleaner as selected from above.

Disclaimer

The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this document without first obtaining written confirmation from CSL Silicones Inc. as to the suitability of the product for the intended purpose does so at his/her own risk. The information contained herein has been prepared in good faith to comply with applicable federal and provincial (state) law(s). However, no warranty of any kind is given or implied and CSL Silicones Inc. will not be responsible for any damages, losses or injuries that may result from the use of any information contained herein. While CSL endeavors to ensure all advice it gives about the product (whether in this document or otherwise) is correct, we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless CSL specifically agrees in writing to do so, it does not accept any liability whatsoever or howsoever arising for the performance of the product, or for any consequential loss or damage arising out of the use of the product. Any warranty, if given or specific Terms & Conditions of Sale are contained in CSL's Terms & Conditions of Sale, a copy of which can be obtained upon request. The information contained herein is liable to modification from time-to-time in light of experience and CSL's policy of continuous product improvement. It is the user's responsibility to check that this document is current prior to using the product. This document must not be used for specification writing.

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Fully cured coating is environmentally benign (will not harm) and is suitable for landfill disposal. However, always check local environmental regulations before disposal.

PRODUCT CHARACTERISTICS

Level of sheen and surface finish is dependent on application method. Avoid using a combination of application methods whenever possible. Best results in terms of gloss and appearance will always be obtained with airless spray.

If overcoating after weathering or ageing, ensure the coating is fully cleaned to remove all surface contamination such as dust, grease, oil, salt crystals, traffic fumes, etc. before application of a further coat of Si-COAT 580 AC.

Do not apply to substrate temperatures below 41°F (5°C).

When applying Si-COAT 580 AC in confined spaces ensure adequate ventilation and/or respiratory equipment. Consult Si-COAT 580 AC SDS for further details.

Si-COAT 580 AC has excellent tolerance to airborne chemical exposure. When severe chemical or solvent splashing/pooling is likely to occur please contact CSL Silicones Inc. for information regarding suitability.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given in this document, the Safety Data Sheet (SDS) and the container(s), and should not be used without reference to the SDS that CSL Silicones Inc. has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards & regulations.

If in doubt regarding the suitability of use of this product, consult CSL Silicones Inc. for further advice.

PACKAGING

Size (unit)	Product Volume	Net Weight	Shipping Weight
1 US gal	1.0 US gal (3.8 L)	11.2 lb (5.1 kg)	11.9 lb (5.4 kg)
5 US gal	5.0 US gal (18.9 L)	55.3 lb (25.1 kg)	59.3 lb (26.9 kg)

STORAGE

Shelf Life: 18 months from date of manufacture in the original unopened container below 90°F (32°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat or ignition.